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Evening Meeting.

Monday, January 20th, 1873.

LIEUT.-GENERAL SIR J. A. LINTORN SIMMONS, K.C.B., R.E., &c.,
in the Chair.

NAMES of MEMBERS who joined the Institution between the 1st and 20th
January, 1873.

LIFE.

Leah, Henry, Lieut. R.N.
Close, Geo. C., Major 45th Regiment.
Rendle, Ashton W., Lieut. 1st Surrey Militia.

ANNUAL.

Twentyman, Aug. C., Capt. 4th King's Own Royal.	Dawson, H. C., Midshipman late R.N.
Yorke, P. C., Lieut. 4th King's Own Royal.	Dowding, Herbert W., Lieut. R.N.
Sconce, G. C., Lieut. late Indian Navy.	Miller, D. S., Lieut.-Col. late 67th Regt.
Routh, W. R., Lieut. 12th Regt.	Jones, William Gore, Captain R.N.
Barrow, E. G., Lieut. 102nd Regt.	Wallace, W. A. J., Lieut. R.E.
Knox, T. E., C.B., Colonel late 9th Regt.	Miller, H. M., Captain R.N.
De Moleyns, T. A., Major R.A.	Charley, John, Captain 60th Rifles.
Bernard, T. S. W., Lieut. 44th Regt.	Cholmeley, H. J., Captain 16th Regt.
	Collyer, G. C., Colonel late R.E.
	Forbes, John, Major-Gen. Bengal Army.

THE AUTUMN MANŒUVRES OF 1872.

By Major C. B. BRACKENBURY, R.A.

THE task which the Council of this Institution has entrusted to me is a very difficult one, and I must begin by asking your forbearance. I have to read a paper on the Manœuvres of 1872, to an audience among whom are many officers far better qualified for the duty than I am, and among whom there are, doubtless, able representatives of

the rival armies. It has been said that "some men are born great, others achieve greatness, others have greatness thrust upon them." Believe me, the greatness of this honour—addressing you here—has been thrust upon me. All I can hope to do is to give a general sketch of what happened on Salisbury Plains, avoiding details which might lead to endless contests and recriminations; avoiding also the expression of any opinion on the terrible question, which side was victorious. What on earth does it matter? All engaged behaved like good officers and soldiers to the best of their ability; all, let us hope, discovered some mistakes in their plans or their action, and will find the experience useful on the next occasion, whether it be again only peaceful rivalry, or the dread ordeal of true battle. If anybody was entirely satisfied with himself and his work, we may set down his case as perfectly hopeless. Supposing then that we are all learning (and for what other purpose were autumn manœuvres instituted?), I will try to be a mere mouthpiece of general criticism, taking care not to accuse of the slightest fault any known individual. If, in the discussion which is to follow, the same tone can be adopted, I think no individual need suffer a moment's pain, and you and I may leave this theatre without a single bitter thought, and with some definite improvement in knowledge.

Before entering upon the definite subject of the "Autumn Manœuvres of 1872," will you permit a few general words of congratulation on the wonderful progress now being made throughout the Army of England. Cast your thoughts back to the year 1866, and you will remember how little interest our countrymen showed in the profession of arms. How dull and monotonous were our drills, how stiff and formal our greater manœuvres even at Aldershot. If you will turn over the files of old newspapers, you will find a narrow carping spirit pervading all reference to military authorities, and whatever influence the grand and patriotic volunteer movement exercised upon the regular army was all in its disfavour. Intelligent military criticisms were simply non-existent, and the only letters which appeared from the pens of soldiers were petty complaints of personal grievances. But that year, 1866, was the beginning of a new era. The great Austro-Prussian war broke out, and the Commander-in-Chief not only authorised but warmly encouraged officers to go to the scene of hostilities, and communicate their impressions of actual modern warfare to the public press. All thoughts were turned in the direction of military organization, and the necessity of military progress. It was recognised that the peaceable feeling of the country had so affected the Army that, while officers and men were as brave and well-disciplined as ever, the Army, as a whole, was not prepared for a sudden war. Since that time military affairs have been treated intelligently. There have been Royal Commissions and committees innumerable. The press has teemed with books, pamphlets, and articles in newspapers and magazines, written for the most part by real students and practical men, couched in respectful terms, and breathing a spirit of anxiety for the welfare both of the Army and the country. There was, naturally (it is always so), a strong opposition, the effect of which was to steady the reformers, and

make them careful in their recommendations, careful also to make sure of their facts. Even among the steps taken by the authorities, there were some which have not yet obtained universal approbation. On the other hand much yet remains to be done. But who that remembers the condition of the Army as to organization, education, and practical training in 1866, can look on 1872 without a thrill of pleasure and joyful confidence in the future? Even as late as 1869 the manœuvres at Aldershot, though already a visible enemy in some force had been introduced upon the field, were still little adapted to the requirements of modern armaments. It was the rule to see the troops take little or no advantage of the ground, but march straight and slowly up to their enemy, accompanied by batteries of rifled guns, which moved in line with the skirmishers, advancing when the infantry advanced, halting when they halted. There is not now a subaltern in the Army who does not understand that such tactics were against all possibility. They could not have been executed in war, and were changed at the commencement of the Autumn Manœuvres in 1871. But in those, our first manœuvres, all was new to us, as new, gentlemen, as civilized warfare with breech-loaders and rifled artillery would have been, therefore, with a wisdom which we must all recognise, much restraint was placed upon the movements of the troops. No after-abuse of the Control Department would have satisfied the country if sickness had broken out among the troops consequent upon exposure to an English climate without tents, food, or firing; no blame of a department could have atoned for lives recklessly thrown away. The result of the carefulness displayed, was manifest in the popularity of the Autumn Manœuvres as shown in the tone of the public press then and since. From that time the success of this great means of military education was assured. In 1872 the Generals were left in greater freedom—and to such an extent was their independence carried that the Duke and his Staff were as ignorant of the movements projected by a Commander for next day, as were the enemy themselves. I think you will agree that this was carrying matters a little too far even if the error were on the right side. Yet there is no doubt that the freedom granted added to the popularity of the manœuvres, which were even a greater success than those of 1871. They furnished, moreover, a new illustration of the old truth, that the way to get good work out of Englishmen is to trust them, and put them on their mettle. It is too customary to say "we cannot do this or that in England because we are not a military country, and have no conscription." To this we soldiers may reply that, in spite of the noisy grumbling of a few, the heart of the nation is with us, and its purse always open when money is wanted for purposes of real utility. Englishmen hate paying when they get, as they conceive, no value for their money. The people do not like conscription, nor will they submit to have an army billeted upon them in time of peace. Their liberty and their prejudices are dear to them, but they are not so foolish as to refuse to pay the price of immunity from the dreaded evils, and the bill for the manœuvres is not much after all—far less than people imagine. The claims for damages have, I believe, this year amounted so far only, to about 6,000*l*.

The original scheme for the Manœuvres was complicated in appearance, though clear enough in its intention. There were several suppositious forces in the field, but their disposition was such as might be supposed to close the passage of the Wily against the southern force anywhere near Salisbury or Warminster; and, what is more, the Southern Army, whether winning or not on the first day, was to be checked, if necessary, by an imaginary force pushed on from Warminster against the Southern communications. On the second day the Southern Army was to succeed in forcing the passage of the Wily, helped, if necessary, by imaginary forces. Then there was to be a day of rest. On the third, fighting day, the paper men on the Southern side were to carry Salisbury and Wilton, the Northern paper men retiring to a line—Figheldean, Amesbury, Porton. The real Northern Army was to defend the Winterbourn stream unsuccessfully, and on the next day the forces were to fight freely for the position of the line of the Avon.

But when it came to actual work, the Commanders seemed hardly to recognise the flimsy men of buckram, and showed pretty plainly that practice in tactics, not strategy, was their chief object.

There is no necessity to give the palm to either force. Tactically the Southerners succeeded on the first two days in bringing superior forces against inferior forces of the enemy; and on the last day the real tug of battle would have been for the Northern communications. Strategically, their action might have been pronounced a little doubtful, taking into consideration the imaginary forces.

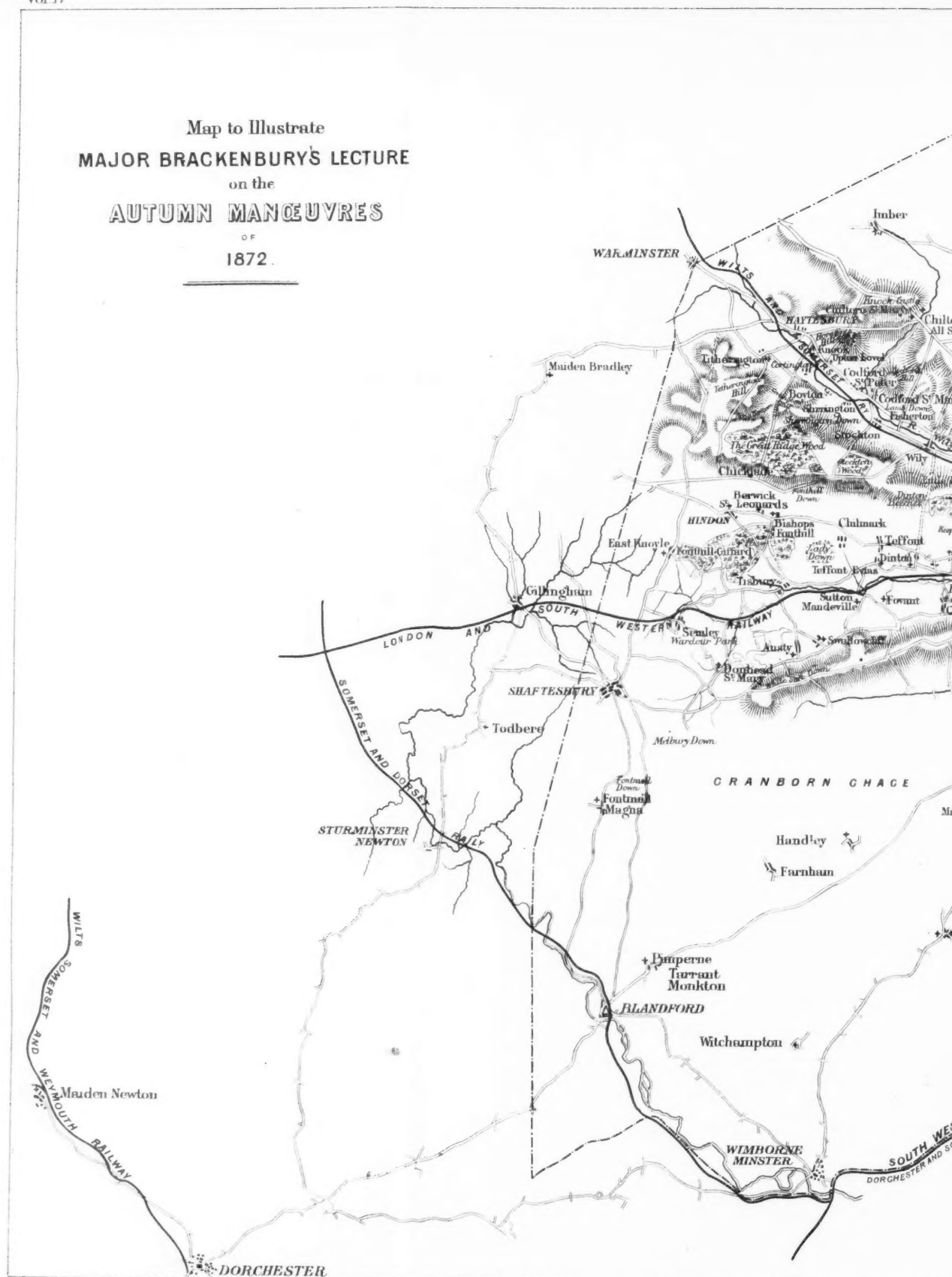
The Southern Army was assembled at Blandford some days before the opening of operations, and had much ado to practise their Militia and Volunteers, though they managed at last to have more than one instructive manœuvre. The Northerners marched from Aldershot to Pewsey, having one or two good manœuvres on the way.

On the 4th of September both armies were let loose. The Northern force from Pewsey, the Southern from Blandford. Cavalry and horse artillery to be quite free. Infantry not to cross the Wily.

The Northern cavalry, interpreting their instructions freely, started in the night, reaching and occupying the fords and bridges of the Wily early in the morning. Later in the day the divisions arrived near the river, and placed their outposts on the north side of the stream. The cavalry intended to have pushed on as far as the crest on the other side of the river, but were checked by orders from Salisbury. Whether their original instructions would have been exceeded by such action is a point still, I believe, disputed. In any case, they must have been somewhat jaded, and in that state would have come into collision with the fresher Southern horsemen, supported by a detachment of dismounted cavalry, as we shall now see.

The Southern Army, avoiding the great chalk ridge, because the roads were extremely steep and the country devoid of water, marched by the upper and lower Shaftesbury roads. There is not time to give exactly the dispositions for the march, nor does it seem necessary. Suffice it to say that their object was to seize and hold the range of hills commanding the Wily. The cavalry marched first—the heavy brigade to

Map to Illustrate
MAJOR BRACKENBURY'S LECTURE
on the
AUTUMN MANŒUVRES
OF
1872.





Lady Down, the light brigade to Fontmell Down—dismounted men, about 500 strong, by rail to Tisbury, then to push on and occupy the roads through the great woods. However the affair might have turned out, it is impossible not to regret the lost opportunity of seeing what two forces of English cavalry could do in their legitimate work of covering the fronts of their respective armies. The infantry divisions marched to Fontmell Magna and Fontmell Down.

At two o'clock on the morning of the 5th, the Southern headquarters were completely informed of the positions occupied by the Northern brigades, and the printers were set to work bringing out the orders for the contemplated attack. On that day the Northern cavalry camp was shelled by the Southerners, and a partial cavalry attack from the North was repulsed by a well-executed combination of cavalry and guns. The infantry pushed on to Fontmell Down and Teffont.

Reports from scouts informed the Commander that the Northern cavalry and part of the infantry had bivouacked above Codford. The remainder of the infantry were on the other side of the Winterbourne stream. He determined, therefore, to adhere to the orders already printed.

The gist of these orders was as follows:—(Remark, if you please, that the Southern Army boldly neglected the imaginary advanced guard of the enemy's Bristol force at Warminster, because if a division could be crushed by a very superior force, the enemy's line of defence would be broken, and part, at least, of his troops demoralised.)

The left of the Northern Army must be deceived and kept inactive, if possible. For this purpose, a small force of the three arms was sent as a theatrical army, circling round in and out of Dinton Beeches, to represent the march of a large force. It is all very well to laugh at this notion, but similar *ruses* have frequently been successful in war.

Four regiments of cavalry and a battery of horse artillery were to march round the west end of Great Ridge Wood, and form in a sheltered position in Long Bottom. Sir A. Horsford's Division with a battery of Royal Horse Artillery added, to pass through Great Ridge Wood, and keep on the western slope of Boyton Down. The artillery to occupy a position near Boyton Farm, and remain masked by the slope and a large hedge there, unless it should be necessary to open fire on Upton Level.

Two brigades of infantry and two batteries to pass between Stockton and Great Ridge Woods, and halt behind Sherrington Down.

One brigade of infantry, two regiments cavalry, and ten guns, to be posted behind Stockton Wood, to guard the right of the Army against a counter-demonstration of the enemy.

When all should be in position, the cavalry were to push along Titherington Bottom, cross the railway near Cortington, the river at Knook, and, taking the Chiltern Road, form up behind the belts of trees on Horse Hill.

The whole of the infantry to cross at Knook and Upton Level, forming behind the ridge between Horse Hill and Codford. Only the force at Stockton Wood was to stand fast.

As soon as the whole were in position, the four batteries across the river to advance as near as feasible, say 1,400 yards, and open fire on Codford Hill. All the guns on the south side of the river to push forward within range, and so bring a cross fire to bear on the enemy. Under cover of which, Codford Hill was to be attacked and carried by five brigades of infantry. The whole programme was carried out. The Northern force retired from Codford Hill, but their cavalry claim to have watched the Southerners throughout, and to have at one time enfiladed their attack by artillery fire. However, the Warminster imaginary force was brought up by authority and the Southern Army was sent back to its old camps. The left of the Northern Army was not brought up in time to be of any assistance.

Such was the battle of the 6th September.

It is curious that the attack should have been made on the wrong flank, strategically speaking, and that the original design of the campaign as planned before the armies went into the field should have supposed that the attack would be there on the first day. It is also curious that the Commander of the Northern Army is said to have expected to be attacked, as he was, on the wrong flank, strategically speaking.

On the 7th, the Northern force again stood on the defensive, and this time, with doubtful right, the Southern Army attacked by Wilton and Wishford. The hardest work again fell to Horsford's Division, which marched from camp round through Wilton to Newton Hill. The Guards marched admirably, doing about 26 miles as their day's work.

The cavalry made demonstrations near Dinton Beeches, to keep the enemy's right on the west side of the Winterbourn stream.

The second division marked by Grovely Wood, waited till Horsford's troops appeared on Newton Hill, then attacked and carried Wishford under cover of artillery, so as again to bring a large force against a weaker one of the enemy.

But there were doubts as to the propriety of the passage at Wilton, where was supposed to be an imaginary Northern force of 2,000 men. The Northern cavalry, too, having crossed at Wilton, came upon a battery and claimed to have taken it together with Sir A. Horsford and his staff. A long delay took place, while the Umpire's decision was still unsettled, and this delay is said to have thrown out a proposed combination formed by the Chief Cavalry Commander on the Northern side.

A small force of Northern cavalry crossed at Steeple Langford, but without effecting anything.

That night the Southern Army encamped on Little Down and Lamb Down. The Northern Army to the east of the Winterbourn.

The 8th was Sunday, and the troops rested. The Commanders and Staff reconnoitred and the conclusions they arrived at were:—the Northern Army to turn the enemy near the Wily, the Southern to turn the Northern right flank by Orcheston and Maddington. But next morning the Commander-in-Chief ordered the two forces to occupy positions facing each other, and as the dispositions had to be made on

the spur of the moment, the battle is hardly worth studying. On this day as on others, was shown the difficulty of getting umpires' decisions, rapidly given, and the impossibility, on the present system, of ascertaining what object has been selected by batteries for directing their fire upon. Some modification of the system seems urgently required.

Certainly guns were firing into friendly troops. On one occasion an Umpire was sent for to put a force of cavalry out of action. Before he came the claimants discovered that the supposed enemy was really part of their own army. So they found some other subject to talk to the Umpire about.

The Southern Army was now supposed to be in possession of Salisbury, Wilton, &c., and encamped near Berwick St. James. The Northern Army retired to the east of the Avon, and encamped north of Amesbury, with orders to take up a position to cover the town next day.

On the 10th, the Northern force crossed the river at an early hour, and took up a position west of Amesbury, sending the cavalry well round to the right, to anticipate a flank attack there. But Sir J. Mitchell determined to shift his line of communications to that of his imaginary force through Salisbury, a very difficult task to be performed in one day in war, and led his whole army by a flank march to turn the enemy's left and cross the river at Netton Bridge, hoping thus to seize Amesbury. His light cavalry brigade meanwhile endeavoured to attract the enemy's attention by showing a bold front, as if covering the advance instead of the flank march of the army. They were spread out in a single line of open order, holding Rox Hill in some force, and having only one battalion in support.

The second division crossed safely. The first division endeavoured to help the cavalry with one brigade before crossing. It suffered severely, though the enemy's advancing line was enfiladed by a powerful fire of guns already across the stream. The Southern light cavalry must also have suffered considerable losses. But, supposing the result aimed at by the army to be a legitimate one, losses in achieving it might be compensated by the gain. The Southern heavy cavalry certainly gained the London Road, but on the other hand, it was believed by the Northern Army, that they, not the Southerners, held with imaginary forces the passages of the Avon.

After one day of rest there came that magnificent parade which sent a thrill of enthusiasm through the breasts of more men than soldiers.

And now, gentlemen, I presume you expect some criticisms on these manœuvres. Neither would you desire nor I deign to utter that miserable carping whine which was once prevalent when the Army and its Commanders were brought under review. We must then have some standard of comparison, something to test our opinions by. It would be vain and foolish to go back to the days when the ranges of artillery were less than half what they now are, when infantry could only fire with about a tenth the rapidity, and to a sixth or an eighth the distance now possible to them, when the wealth of nations was comparatively undeveloped, when roads were bad, railways and telegraphs

non-existent. Much is indeed to be learned from those times, nor can we ever hope to excel in conduct and daring the deeds of our gallant English forefathers. But the means at our disposal are very different to theirs, and just as one step after another has led on from the Greek Phalanx to the Roman Legion, then through the desultory combats of the middle ages to the machine-like accuracy of the Prussians under Frederick the Great, when whole armies stood in line, or moved simultaneously to a flank in one vast column, capable of wheeling into line at any moment; on to the corps organization of Napoleon under separate commanders and its development by Prussia; so must we look for the steps incumbent on us to take under the new order of things. Now it might be possible for a military genius to foresee all possibilities and difficulties, and work out from his calculations in the closet a system capable of answering all ends. But the task is almost above what we can conceive of human faculties, and it certainly has never been performed. The Prussians have had to introduce one improvement after another, derived from their experience in three wars during nine years. Surely the wise course for us is to study with extreme care the actual processes and results of modern war; to note especially what changes have been forced upon armies by experience, and then, taking their general advance as a guide, to see whether we are moving in the same direction, and how far such changes could be carried in the English Army without violating our national usages or the traditions of which we are so justly proud. We know of one nation whose arms have been marvellously and invariably successful against the greatest military Powers, a nation which has risen by force of arms, and knows well that by arms alone can its present position be maintained in the face of the most jealous rivalry. The thoughts of that armed nation are constantly bent upon military progress, and no English visitor to Prussia can fail to be struck by the warlike atmosphere he finds himself breathing there. Are we to refuse to learn the lessons extracted by Prussia from her last few years of blood and iron because we were not there fighting ourselves? Because our circumstances are not the same as hers, and do not admit of copying her path exactly, as, God forbid we should ever do, are we to say that the only illustrations of modern war placed before our eyes are also the only ones we will not learn from? I am impelled to call your attention to these things because there is now a class of men who, unable or unwilling to designate the direction which progress should take, try to hinder the labours of others by branding them with the epithet of "The Prussian School," as a term of opprobrium. Yet it is these very men who would, if they could, saddle this country with the torment of general service, thus copying from the Prussians the one measure unsuitable to our national system undemanded by our necessities. It is very curious to see the different effect produced on different minds by observation of what is going on abroad. One Officer comes home, and tells what experiments are being made in different places before deciding upon the alterations to be permanently adopted and crystallised in the drill-book; tells, also, that no rules are to be considered as absolutely binding, but that Officers are being so trained

in tactics that everyone of them may be trusted to act rightly and above rules according to circumstances. Another, with the same opportunities, says, that there is nothing to be learned because everything is in confusion. The one explains how the artillery is being reorganized to give it a power of less desultory action, to bring it into greater harmony with the corps organization, and to increase its numbers; the other asserts, that it is absurd to study the Prussian artillery, because it is in a state of revolution! And so on throughout the whole range of subjects. Now, I appeal to you, what has been the course by which England has risen to the pinnacle of power on which she now stands? Imbued with a thoroughly practical and progressive spirit she has taken as a foundation the courage, energy, and industry of her own sons, and built upon these solid qualities an edifice composed of all that laid ready to her hand, wherever it came from. Nay, like the old Venetians, she has been at the pains of sending abroad and bringing back the costliest materials to add to the stateliness of her building. Nearly all our arts and manufactures were imported from abroad, but brought to perfection by the energy of Englishmen. Nothing but blind prejudice could deny that we imported fire-arms, the casting of iron guns, the line formation, horse artillery, and the very system of rifling ordnance, which is now universal. We might as well reject the Henry-Martini rifle because Martini was not an Englishman, as the experience gained in war by the Prussians, because our ways are not as their ways, nor our thoughts as their thoughts. Therefore I will not heed the cuckoo cry of the Prusso-phobists, but try to bring the light of the experience gained in the late wars to bear upon our principles and practice in the last autumn.

It would not become us here to question either the general idea or the particular suppositions given to the Commanders each day. There were many difficulties to be met—chiefly the uncertainty of supply. The dispositions of the Generals had to be rather hampered by imaginary forces brought on the field—one of those Prussian practices which seem to me unnecessary with us, because, having no regular system yet devised for the thorough supply of an Army in war, we are trying to work one out in peace, and should, therefore, attempt something which would really test the Control Department as nothing has yet done. A very simple plan would be to give each Army a certain road as its line of communications, which it must not lose. Then, perhaps, there would be no necessity for visionary forces, whose effect on the day's fighting seem to be always open to argument. Having adopted the principle of Autumn Manœuvres from the Continent, we may well improve upon foreign practice. Concerning the action of the two Armies, it may be remarked, without offence, how the old maxim was proved, as it has been on hundreds of occasions, that the way to defend a position by a small Army is not to extend, hoping to cover it all, but to defend with tenacity the most important point and, with the rest of the Army, deliver a counter-stroke as soon as the enemy's plans have been developed. There appeared to be, also, among some Commanders, a tendency to move about restlessly, busying themselves with details rather

than grasping the situation and issuing few orders, but those well considered and to the point. When riding with the Staff of Prince Frederick Charles, during hot engagements on a large scale, I saw quite another system. The Prince moved very little, and never far from the spot where all despatches were to be sent. Often dismounted, he was always in close communication with his Chief of the Staff and Quartermaster-General, who usually stood beside him. Maps were frequently consulted; the reports of messengers, the evidence of personal sight and hearing were all calmly considered, and when the various divisions and brigades had attained the positions marked down for them beforehand, the maps were folded, the horses turned quietly in the direction of head-quarters for the night, where the members of the Staff began forthwith to write orders for the morrow. This quietism was a great characteristic of the Duke of Wellington and the great Napoleon. Can we have better examples?

The English Staff shows signs of talent and vigour, but there seems to be some fear lest its very efficiency should become a danger. The progress of one branch of the Army must not be made at the expense of others. That admirable pushing energy, so characteristic of the Briton, causes every new or newly trained department to seize all the work and all the power it can. The position of Staff Officers is or ought to be a definite one. They are not Generals nor, in any sense, leaders of troops, and it would tend towards the detriment of the Army if the Staff came to be looked upon as a body of Commanders, or even to be referred to on all occasions. The Generals and Colonels must themselves learn a great many things which are too often considered to be Staff duties. There is the credit, in case of success; theirs should be the responsibility. A little thought will show that there is need of a warning on this subject. On the other hand, there appears to be a want of system in the relations between the Staff and the Control Department. An article, published in *Blackwood* last November, pointed out that while the old privilege of the Guards, that of taking orders from none but their own Officers, has been abolished, the Control Department, the very last that should do so, has, by some means or other, become possessed of the distinction taken from the Guards. In war, nothing more fatal can be conceived, and while we should make all allowances for a new department doing its best, no doubt, we cannot help seeing that there is rising up in our military system such an *imperium in imperio* as bids fair to deprive the Army of that feeling of brotherhood than which nothing is more essential to its efficiency. It is impossible to suppose that so fatal a step can be dreamt of as making the civil element within the Army superior to the military. If so, we might sheath our swords for ever; and the very appearance of such a notion is in itself to be avoided. Duty and discipline will always insure obedience, even to the most fatal scheme, if propounded by authority; but there is a feeling of honour and a pride in bearing arms which cannot be violated, especially in a Volunteer Army, without the greatest risk to *morale*. Even a Bismarck occupies a secondary position in war, and the expression, "*Arma cedunt togæ*," must not be thought applicable to the battle-field. It is said that there

were about 120 Control Officers employed at the Autumn Manœuvres. For purposes of transport the teams of several batteries were taken without their own drivers; my own battery furnished 36, besides taking up the transport duties at Colchester, 18 miles from Ipswich, where the battery is quartered. No less than 455 of the horses employed in transport, chiefly for the reserve forces, came from the Royal Artillery. It may also be considered not unworthy of remark that a very large proportion of the horses bought for the occasion were sent over from the continent. The same assistance was given in other places, yet, with all this, most of the supply was done by contract, and even then, preserved provisions had to be resorted to. Surely, while giving our adhesion to the principle that one department should be responsible for the supply of all articles not being actual arms and ammunition, we may declare unhesitatingly that the energy and ability of Control Officers have not yet succeeded in organizing a proper system of supply for the English Army. It would be foolish and unpatriotic to shut our eyes to this fact, and leave to the moment of trial what can so easily be arranged now, in time of peace. I would suggest that this year the two forces should be supplied, as in war, from dépôts placed on their respective lines of communications, where the Contractors should deliver their stores; not that Contractors should be trusted to deliver them at points previously arranged for the encampment of the forces, no matter who wins or loses. It is unquestionable that the friction between the Army and its Supply Departments is, at present, tremendous, and much power is lost thereby. The new system of regimental transport was found to work well and was very popular, but it needs a little more organization.

We now come to the tactical action of the three arms—Infantry, Cavalry, Artillery. I put them in the order usually adopted, though there is a rising school in Europe which asserts that success is, in future, likely to follow that Army whose Cavalry and Artillery are most numerous and best trained. However this may be, the idea is too new and radical to be worth discussing at present in England, only it should be stated that the head-quarters of the movement are in Russia, and it is calculated that the Czar could put not less than 120,000 hardy horsemen in the field.

Since last year's Manœuvres, the Commander-in-Chief has taken a step, the consequences of which are, in the opinion of most military thinkers, likely to prove an inestimable advantage to the Army. We may each have our particular crotchet as to the best formation of Infantry to meet modern weapons. For my part, I care little whether the working tactical unit be a company of 250 men or a half battalion, which, though its nominal strength may be 500, will scarcely ever put in the field actually fighting more than 350 bayonets, if so many. The great fact is that Infantry Majors are now told they are responsible for the order of attack or defence, and that they are to act, not according to hard-and-fast rules, but according to their own intelligent apprehension of the circumstances of the case. This, and not any special order of battle, is what we had to learn of the Prussians. Sometimes line will be right, sometimes column, sometimes swarms of

skirmishers. Henceforth, there can be no reasonable grounds for advancing a whole brigade in line, under the enfilade fire of several batteries. But the Majors will have to take care that their tactical acquirements are equal to the trust reposed in them; they will have to lead their half battalions with careful forethought, not unnecessarily exposing their men, but, on the other hand, not losing their proper place in the line of battle. Depend upon it, no ordinary vigilance will be required to fulfil all the conditions imposed upon them by the development of modern Artillery and fire-arms. To say that they are sure to do well after a little practice, is only to repeat that absolute truism—"Whatever is set before English Officers, by authority, as their standard of efficiency, will be attained by them, and as they have hitherto surpassed all nations in the cleanliness, the order, and the discipline of their men, so will they now take their place in the front rank as thoroughly practical tacticians." This is as complete a certainty as that the sun will rise to-morrow morning. The independent character of the Englishman, his obedience to law, and confidence in his Officers, are the very qualities most suitable for the new system of tactics, and I challenge, as the real croakers and alarmists, those who deny the sufficient military intelligence of the British Infantry Soldier. He is steadier than the Frenchman, brighter in spirit than the German. He is well fed, therefore hard in muscle; well disciplined, therefore trustworthy under all circumstances. Emancipate him from barrack-yard routine, and he will grow like a plant brought from a dull room into air and sunshine. Trust him and teach him, he will become once more a model for all nations. Pray let us not forget that it was not only for steadfast bearing in line that our infantry used to be celebrated. Have we any reason to be ashamed of Crawford's men in the Light Division? And, what is more, there is hardly a single development worked out by the Germans lately, which had not been advocated, many years ago, by the glorious spirits trained in the Peninsular War.

The requisite training both of Officers and men is to be attained by frequent small manœuvres all the year round; and since the principle of giving responsibility to comparatively junior Officers has been recognized, there can be no shadow of a doubt that they must be given practice during the year under the critical eyes of Generals commanding in districts. There appears to be still a good deal of backwardness in outpost duties, especially as regards communication with the main-body. On one occasion the outposts placed to watch the Wily were to my certain knowledge ignorant of the fact that the battle was over, and their Army in full retreat. When they were afterwards attacked and driven in, they had no idea of the direction they should pursue to join their division.

The most remarkable mistakes, if I may venture to call them so, made by the infantry, were two of an exactly opposite character. While whole brigades marched in column under fire of the enemy's artillery, and deployed into line within range of guns and sheltered infantry, excellent positions were given up with a mere show of resistance. It is difficult to understand how two such practices can

prevail side by side. The fire of troops posted behind banks or walls is quite invincible until the men are demoralized by a heavy concentrated fire of artillery. They may have to yield to a flank attack, certainly not to one directly from the front. This is a rule almost without exception. Inferior numbers can hold their own against a superior force for a long time, if the men are not demoralized. Take for example the attack upon Wishford, on the 7th. A division of infantry debouched from Grovely Wood, in column, and threw out skirmishers who advanced slowly across the open. The railway embankment made the place a strong fortification, but nearly all the defenders were withdrawn without a struggle, and the village was suffered to pass into the hands of the Southerners who thus found themselves safely ensconced behind houses, &c., and could from their sheltered position bring a superior fire to play upon the defenders. Now, I venture to suggest that a better course would have been to have held Wishford, with great tenacity, and thus have prevented the passage of the river, while directing all available troops against those of the Southern force already across the river at Wilton. Surely we should not so abandon positions in war. Why then play at doing so? If anything, we should exaggerate the effect of that British virtue, tenacity. The improvement in marching power was striking to all who had seen the manœuvres of the previous year, and if I might humbly express a general opinion, it would be that the practice of two seasons of Autumn-Manœuvres and the new order issued from the Horse Guards has more than doubled the efficiency of the infantry, though it is manifest that serious tactical studies are still necessary.

The cavalry seem now to recognize a new standard of efficiency, and some of their work at the manœuvres this year, was as good as could be; but through it all, or almost all, there was visible a dread of losing prisoners, of being taken unawares, in short a terror of making sacrifices. There are certain possible evils in peace manœuvres, but now that they have become an English institution, we need not be afraid of facing the dangers attending their practice. It is said that in Austria the manœuvres tended at one time to make the Generals over-cautious, and therefore weak. Warned beforehand we may avoid falling into the like error which seems especially dangerous for cavalry. We are justly proud of the fine men and fine horses, but there is a tendency to take a little too much care of them. It might, perhaps, be an exaggeration to say that cavalry are made to be sacrificed, but it would not be far from the truth. At any rate, the dread of sacrificing his squadrons is a great weakness in a cavalry commander. The chief use of cavalry in modern war is well understood to be the perpetual watching of the enemy. It is not sufficient to send out a reconnaissance at day break and rest contented for the remainder of the morning with its report. The cavalry should be always feeling the enemy, broken into small detachments which can avoid observation. Horsemen should occupy every hill whence the enemy's camp may be seen, and the movements of his every column. It is in vain for the cavalry of a defensive army merely to cover the front at a little distance from the battalions until the enemy's appearance tells what his columns have been doing. If

cavalry are the eyes and ears of an army, they should be perpetually *seeing* and *hearing*, not only *waiting* and *listening*. Moreover, every English cavalry regiment should be accustomed to go across country. A horse's leg may be broken now and then, or a man's collar bone, but what is that compared with perfect efficiency? It has never yet been supposed that the main duty of soldiers was to take care not to hurt themselves, nor is it easy to see why the men and their horses should be so carefully restrained by Officers who are always ready to risk their own necks in the hunting field or the steeple-chase. In the *Revue Militaire de l'Etranger*, of the 1st January, there is an interesting article describing the practical training of the Austrian Cavalry. A correspondent of theirs had been at the Camp at Bruck, the Aldershot of Austria, in the summer, and had not only seen the cavalry worked constantly across country, as I have myself seen them, but had specially observed two squadrons which in charging came upon a broad ditch, and leapt it without slackening rein or breaking their ranks. He, or another correspondent, subsequently studied the system by which such a combination of steadiness and dash is achieved, and you may read his article in the number for the 1st of January. It is no part of my business here to enter into the subject further than to assert that the Austrian Cavalry moves in good formation and with sufficient steadiness across any fair hunting country, and is besides accustomed to climb up very steep places, to cross marshes and to swim rivers. So long as our magnificent cavalry were kept perpetually pottering about in barrack-squares and drill-fields, no such activity as this could be expected from them, but we have at last arrived at a point in military training when exercises so practical in their nature may be advocated without exciting derision. Of course the English Cavalry take care of their horses, of course they would charge foreign troopers with perfect gallantry and irresistible power; the only question is whether they are not over-afraid of hurting their horses and over-devoted to the idea of charging. Activity being the special characteristic of cavalry and intelligence duties not the least important part of its work, the development to be looked for as compensation for the increased power of infantry and artillery should surely take the direction of increased activity and intelligence. It is remarkable that among the best of the military students tested by examination at the Staff College, you always find Cavalry Officers, and nearly all whom I have lately come across, are most eager to develop the efficiency of their arm, and well qualified to do so. But why waste words in saying what everybody knows? Autumn manœuvres will soon show what remains to be learned. English Officers will take care to learn it.

Concerning the employment of artillery at the manœuvres, the first striking fact is, that the Generals seem to have made up their minds that the use of modern artillery is something out of their reach, since guns no longer stand in line with the infantry. There was only once, so far as I know, anything like an effort made by a General with a mass of artillery fire—such an effort as would crush and demoralize whole brigades or divisions of the enemy. It would be a

great mistake to suppose that Artillery Majors advocate being left entirely to themselves to work without combination of batteries in a desultory manner. Indeed, no one knows better than they, that the solitary action of one battery can seldom effect much, any more than one regiment of cavalry or one battalion of infantry. Infantry cannot carry a position by front attack if it be well defended by steady troops. The steadiness of the enemy must be knocked out of him by a heavy constant rain of shells, crashing and bursting among them, and this requires a considerable number of guns, not necessarily ranged side by side, but directed on the same object by the same intelligence. To succeed in handling his guns so as to make the most of them, the General must have definite plans, and communicate them to the Commander of his artillery, as he would to the Commander of an infantry division or brigade. There is, no doubt, much desultory work to be done by single batteries, whose leaders are well trained in tactics, but all must be accustomed to work together for a common object. The sphere of artillery action is no longer the same as that of infantry, but the law that combination is necessary for effective work remains invariable. It is not common for Generals in our Army to study very deeply the handling of artillery. Even the great Duke was not an adept in the science and tactics of this arm. For various reasons, which there is not time to give, the knowledge was less necessary then than it is now. Sufficient for us is the fact, that no single front attack made by infantry during the late war was successful unless prepared by a long, concentrated fire of guns. How necessary is it then that the field artillery should be handled by men well acquainted with its peculiarities, and kept near the front of the column of march, so that it may be ready to commence its work at once upon catching sight of the enemy, losing no time, but acting vigorously to cover the deployment of the infantry.

Artillery has two very distinct functions in an army organised upon modern principles. There is the Divisional Artillery permanently attached to infantry or cavalry divisions, and the Corps Artillery which acts as a separate body, and is too often spoken of in our service as reserve,—a complete misnomer, unless you like to call “reserve” that which goes first, or, at least, second, into the front line of battle perhaps before a single infantry soldier is engaged. The divisional artillery may—probably will—open the ball, acting in small bodies such as batteries, and in a comparatively desultory manner; then they will be supported by part or all of the corps artillery sent up to range itself beside them. Some of us may like it, others not, the fact exists, and has been stated again and again upon authority, that infantry cannot attack positions defended by steady troops armed with breech-loaders, until the way has been prepared by artillery fire, acting for a considerable time. To avoid delay and discomfort of the other troops, the guns should always march near the head of the column. Is not the first order on seeing the enemy, invariably, “Bring up the artillery?” Surely then the nearer the artillery is to the front, the less will be the delay. Divisional artillery will probably act by single batteries, or by twos and threes—the corps artillery in a mass. But how can it

be massed if there is only one battery not attached to divisions, as was the case this year? The Prussians, taught, let us remember, by failure in 1866, have always since pushed their artillery well to the front at the commencement of battles. They have now four batteries to each of the two divisions in a corps, and about double that number to act freely as a Corps Artillery. Moreover, they have raised the rank of the Officers commanding. Surely, after 1870-71, there must be something to learn from Prussian artillery experience.

It would not become me here to say anything of the appearance or steadiness of the English artillery, and it is the less needful because praise enough and to spare was lavished upon them in 1871. I hope you will agree that they have not degenerated. For Artillery Officers, as well as others, the progress now to be made is in the direction of tactical studies. Only once more I may be permitted to ask, where are the "range-finders"? Any one who took the trouble to ask questions at the late manœuvres must have felt sure that no want was more felt than that of ascertaining the range as accurately as possible before unmasking the guns. And it may be doubted whether another adjunct to each battery should not be a very strong telescope. When we think of what a battery costs, it must be agreed that everything which can add to its power at a moderate price should be given. "For want of a nail the shoe was lost; for want of a shoe the horse was lost." That English soldiers, whether artillerymen or not, will make the best of what they have, may be taken for granted; but do not let us be so illogical as to say, "Therefore they don't need this or that." Give it to them, and once more they will make the best of it.

Escorts for artillery were generally taken from regiments, thereby breaking up squadrons or battalions, and this was even the case sometimes when the enemy was far away. So long as a battery is with other troops, the nearest of them are its escort. It needs no other, and artillery, if detached in presence of the enemy, requires a stronger escort than a handful of infantry or cavalry. There is a growing opinion, both within and without the artillery service, that each battery should have, *as part of its regular strength*, a few mounted rifles to act as scouts and messengers. Trained by the Majors commanding, they would become infinitely more serviceable for the special purpose than any detachment of cavalry however good, and they would supply the place of larger escorts.

Concerning marches, it is to be observed that there was frequently a most remarkable absence of advanced guards and flanking parties; and if one thing more worthy of notice than another was proved in the late war, it was the usefulness of strong advanced guards. Perhaps it would be well to practise advanced guard duties as well as outposts a little more frequently and seriously than is the habit at present. It would, indeed, be a shame if, after introducing the practice of "Autumn Manœuvres," an English Division were ever attacked unexpectedly in camp or on the line of march.

But the subject to which I most earnestly ask your attention in the discussion is the absolute necessity of preparation for the manœuvres. Drills are not preparation enough. They help to discipline men, they

bring soldiers steadily into the presence of the enemy, and move them steadily again after the battle is over; but the details of the battle itself no drills will teach them; nothing but continual practise throughout the year of small bodies under junior Commanders, criticized by the Generals. How many Officers were there at Salisbury, I wonder, who felt themselves masters of such details as the attack and defence of bridges, villages, woods and positions of various kinds? Yet battles now consist almost entirely of such work. We may get out of our heads entirely the vision of troops beautifully drawn up in lines of battle, squares, or columns on plains. Rifled artillery and breech-loaders have settled all that for the present. The Army which can once get its enemy well in sight as the Prussians had the French at Sedan without being exposed themselves, may consider the battle as good as won. No, the battles of the present and immediate future must consist of a series of attacks upon positions, defence and counter attacks, till one side is short of ammunition or demoralized by one means or another, either by turning a flank or breaking the centre, or cruel bombardment. The Army whose Officers and men are best trained for these small but important actions, will, if its men be brave and true, have a definite advantage over its antagonists. There is no difficulty in practising such small manœuvres all the year round. You have only to march two forces into the neighbourhood of camp or quarters, and pit them against each other as you do the two corps at the manœuvres, arranging your suppositions so as to make sure of producing a useful struggle of one sort or the other. I can vouch for this from personal experience. With my own battery and a squadron of Dragoon Guards, at Ipswich, we really succeed in learning some practical lessons, and our little manœuvres are very popular both amongst ourselves and in the neighbourhood. What is difficult for cavalry and artillery is extremely easy for infantry, and moderately easy for the three arms combined. The War Game has been introduced among us, and is already popular. As far as it goes it is invaluable. But after all a map is not actual country, and ordering the movements of small pieces of metal is far less confusing than moving real bodies of troops, no matter how small. By practice, too, one comes to understand how precise orders must be, and how simple all plans should be in view of the probable blunders of subordinates. The men engaged, acquire almost a new sense and grow rapidly in military intelligence. At first you will find cavalry patrols coming in and reporting that they have seen the enemy, but without counting his force, or guns taking up the most exposed positions. But faults are soon corrected and not repeated. Here is a case which actually occurred. A young Cavalry Officer who had handled a small force of dragoons on an open heath, for a long time, so well as to protect his guns from capture by a superior body of cavalry, found himself at last about to be attacked in front and both flanks. With right judgment he beat a hasty retreat, but coming upon two of his own guns in action, on a road bounded by banks and hedges, he, in the hurry of the moment, sped past them, calling to them to limber up, instead of rallying behind their protecting fire. The result was that the enemy came up when

the guns (or rather one gun representing two), were limbered up, and on the point of retiring. Depend upon it if he lives to be a hundred years old he will never make a similar mistake again. It is far too common to hear an Officer of one arm saying, "I do not understand the use of the other arms, I wish I did." How is he to acquire this knowledge except by practice? Only try such manœuvres, and you will find them interesting, instructive, and an immense help to discipline.

Last year, about this time, I had the honour of proposing here that the English Army and Navy should work out together all the details of coast attack and defence. Since then, Mr. Vernon Harcourt stood on this platform calling for information on the means required for attack of the English coasts. Though his opinions were ably combated and finally refuted, it was striking to find how little accurate information was elicited as to the proportion of men, horses, and stores required for the invasion of England and the transport required for them; the time taken in embarking and landing, and the chance which the hostile flotilla would have of avoiding our ships. Permit me to ask again, is this worthy of the greatest naval power in the world with the best railway communication, and an excellent though small Army? I again propose the embarkation of a force of 10,000 men under an Admiral whose only instructions should be to land them on the coast if he could. Whether he succeeded or not, it is difficult to over-estimate the amount of knowledge which the naval and military services would acquire by such a manœuvre, and it need not of necessity be performed in autumn. It is said that an Officer well versed in the ways of the War-Office, engages that he would not only land a division, but put the men into barracks in London, without encountering serious opposition. Little requires to be said of the Militia or Volunteers present at the manœuvres. Some splendid corps were employed, but all experience has taught us that it is most perilous to place half-trained troops in line against a regular Army, and while the zeal of both Militia and Volunteers was all that could be desired, it would need a long discourse to examine what their place in the field should be in case of war. This much we may say, that it is doubtful whether a single Officer knowing his profession thoroughly, could be found to advocate a passive defence of England. The country is altogether hookwinked on this question. To declare war and keep our regular Army at home would be to give every possible advantage to the enemy, to sacrifice our colonies, to expose the fair fields of England to frequent contamination by the foot of the foreigner, and her people to insult and ignominy. Is there now in this room one Officer, who has really investigated the question, bold enough to stand up and say, that we are prepared as we should be, either for a foreign war or for the defence of the country? We have first-rate soldiers, an excellent system of discipline, and greater harmony between different ranks, than exists in any other Army in the world. Our arms and material are also excellent. But there we stop. We have not yet as much as a Corps-organization even on paper; no General Staff perpetually engaged in improving our organization, and devising means

for making the best of our resources. Our system of supply in peace is quite inapplicable to war, and we have no war-system even on paper. Only three days ago, one of our most talented Control Officers insisted upon this fact in conversation with me. In short, with the terrible example of chivalrous France before our eyes, we are leaving some of our most important preparations to be made on the eve of a war. We are acting as if there never again will be a war in which we shall take part. Yet how absurd is the dream of perpetual peace. We love peace and would do—have done—much to secure it. But I deny that there is a haughtier or more warlike people upon earth. We were within a hair's breadth of war in 1871, and the language of the press, which, better than any other organ, represents the feeling of the nation, is, at this very moment, almost threatening towards one of the greatest military powers in the world.

If then war is possible, what should we soldiers be doing? Surely preparing for combat, not only keeping up a certain number of well-drilled regiments. Let us cease complaining of Parliament and growling at Governments. Every Officer here present has a government of his own, great or small. If each one of us will only administer his department to the best of his ability, we shall have nothing to fear, for the same stuff is in us as was in our forefathers. Some of us love to study the deeds of those who have left us their examples to follow; others endeavour to catch the meaning of present progress, or, with prophetic eye, reach forward to anticipate future developments. With the former let us be conservative of our glorious traditions; with the latter fearless of all necessary changes. Governments are temporary and can do no more than carry out the will of the nation. Who but we ourselves have to tell the nation what military measures it must call upon its Ministers to carry out? The country and the Army are permanent. We have received from our progenitors, and are responsible for transmitting unimpaired to our posterity, the honour, the safety, and the liberties of England.

MR. DE FONBLANQUE, Deputy-Controller, h. p. : I have no hesitation in being the first to rise on this occasion, because I am quite certain that those who succeed me will have nothing to say but what is in approval of the admirable lecture we have just heard. My remarks unhappily will be, as regards the immediate service with which I am concerned, not exactly in praise. The strictures made upon the Control Department were I think a little hard and severe. I am not an enthusiastic admirer of the form that the Control Department has assumed under War Office manipulation, as I had the honour of stating in a lecture I delivered in this room last year. I then pointed out that there were certain grave defects in the new system; but I think Major Brackenbury has not hit upon the right blots. He has assumed that the individual members of the Department prove themselves wanting in the performance of their duties during the Autumn Manœuvres. (Major BRACKENBURY: No, no; it is the system, not the individual.) He dwelt upon the fact, for instance, that they were not able to supply the Army without borrowing transport from the artillery. I need hardly mention that that is simply a question of money. If a larger sum had been voted for the purchase of horses, the horses would have been forthcoming; but in the absence of those funds it was necessary to borrow from other Departments, and, accordingly the artillery furnished that supplementary transport, and co-operated most cordially with the Control Department. Again it was stated that they were obliged under all circumstances to supply everything under contract. I do

not think that that was the case. Although all existing contracts were made available, local purchases were resorted to to a very great extent. But the most important point, which I would like to refer to, is the charge of the *imperium in imperio* which is said to exist, and which implies an assertion of independence on the part of Control Officers, which I am quite certain does not exist, and which under a good Commander could not possibly exist, whether he commands a regiment, or a brigade, or a division, or a *corps d'armée* allotted to him; it is utterly impossible for the Control Officer to be otherwise than strictly subordinate and to carry out his orders. Nor do I believe there was a single instance during the Autumn Manœuvres where any Commanding Officer had to complain that a Control Officer under his orders assumed any authority inconsistent with his position as a subordinate. I was very glad to hear that there was no charge intended to be made against individual Officers,—this was it appears a misapprehension on my part,—but I am perfectly sure that that feeling, which was so strongly expressed as to the want of harmony existing between the combatant and the non-combatant branches of the Army, is owing in a very much greater measure to the contempt which the military element has always exhibited (and which existed under the old *régime* as much as now), for men who are civilians serving with the Army, than to any inherent faults of the supply system.

Major-General SHUTE, C.B.: I do not think it desirable to promote any discussion with reference to the general subject of this most interesting lecture, which has been delivered with the greatest possible tact, and good taste, for we, who were actors in the scenes which have been described, must recollect that, *with wisdom after the events*, it would not have been difficult for so able an Officer as Major Brackenbury to criticise the many errors which must occur even more frequently in peace manœuvres, than in actual war. My chief object, then, in rising is only strongly to advocate, and to give every support, in my power to Major Brackenbury's admirable suggestions with regard to frequent smaller manœuvres, that is to say, such as can be carried out by a single brigade, or even a regiment. It is utterly impossible that without such smaller opportunities of obtaining a knowledge of the rudiments of practical field tactics, Officers in the Army, from Field Officers downwards, can be as well fitted as they should be, to do credit to themselves, and the troops under their command in the larger manœuvres in the autumn, or be as highly qualified, as the times require, for active European warfare. And I wish on this occasion to point out the very great difficulties which Commanding Officers must always experience in their endeavours to conduct these minor manœuvres, consequent on the stringent manner in which the laws of trespass are frequently enforced, and against which the Officers of the Army should, when on duty, have some partial protection; and further, cases of small and unavoidable damages should be fairly assessed and the costs be paid by the War Department. I have long taken great interest in the sort of practice advocated, which I have had sundry opportunities of carrying out, both in India and at home, and both with mixed troops, and with cavalry only, and I can assure, gentlemen present, that my Officers have frequently been grossly insulted, and often rudely driven off ground where for recognizance or other military purposes they have ventured to intrude, and when they could do no possible mischief. On other occasions heavy and unwarranted damages have been threatened. Now, in making these remarks I do not wish to throw censure on such very good fellows as our English farmers generally are, for I feel that it is simply that they rarely understand at first, that the intrusion they object to is with a view to military instruction and not for mere lark or display, and it may, be fairly argued that their objections may very generally be overcome by a little tact and civility on the part of the trespassers, but such is not always the case, and this calls to my recollection a somewhat amusingly overcome difficulty of this nature, which occurred to me little more than a year ago, when I was conducting a manœuvre with one wing of my then regiment against the other, which was occupying a considerable extent of country, and had secured the fords and bridges of about six miles of the Mersey. The farmers in general had shown a rather lively interest in what was going on, but on one farm bordering on the river, the proprietor being absent, was represented by his wife, and I must say that I was somewhat astonished at the strong language which flowed from a young and rather pretty woman, furious at the result of the firing of some dismounted skirmishers; however, I left a plausible good-looking Captain with her, requesting him to remain, and do the

civil, a duty to which he evidently had no objection, and I need hardly add that I heard no more of him for some hours, and when I did next see him he informed me that not only had he overcome all the scruples of this obdurate wife, but that she had desired him to say that she would be glad to see the soldiers on the farm as often as possible! But to be serious, there really are very great difficulties in carrying out these small manœuvres for the reasons I have mentioned, and I feel certain that our able lecturer will agree with me, in the opinion, that an absolute necessity exists for giving some protection to Officers and soldiers, who occasionally leave the high road for either manœuvre or recognizance, as well as funds to meet costs.

General CAVANAGH, R.E.: Mr. Chairman, I would simply make one remark with regard to Major Brackenbury's able paper. He has alluded to lines of infantry moving under artillery fire, by which they would have been completely shattered had they advanced in that formation. I think he has omitted to take into consideration as regards the Officers commanding those brigades or regiments, a very great difficulty that exists in peace manœuvres, it is the difficulty of knowing whether artillery is playing upon you. On the last day of the manœuvres I ascertained the range at which one battery was firing: it was 2,000 yards, the object, a small body of cavalry. Supposing I had been in command of that body of cavalry, I should have been perfectly unaware that artillery was firing upon me. Of course we know in actual warfare a Commanding Officer would very soon discover whether he was under the range of artillery, and would at once take vantage ground to cover his men; but in peace manœuvres it is quite possible that regiments of infantry may be marched steadily on to the front to meet other corps of infantry, and be at the same time entirely ignorant that they are thoroughly enfiladed by distant batteries of artillery. This is one very great difficulty we have to contend with.

Major WEBBER, R.E.: The position of the umpires appears to have been one of the most difficult which could have been occupied during the late manœuvres, and I venture at this meeting to make a suggestion, which, perhaps, our lecturer will endorse—it is this: that instead of our umpires occupying certain areas of ground, they shall in future, invariably accompany different detachments or bodies of troops, whether divisions, brigades, or detached portions of brigades. Because I think one feeling which existed through the armies, both Northern and Southern, was, that after these manœuvres were over, they heard and knew very little of the opinion of those umpires, whom they saw going over the field, and from whom, from time to time, they heard decisions which they did not always understand. I think, Sir, that as the manœuvres are intended as a means of instruction, not only to the senior Officers of the Army, but also to the juniors, and even to the rank and file, the absence of some definite opinion, as to the mistakes and the successes of each day, was also an absence of a means of instruction. Now, if the umpires had on each evening, after they had heard the remarks which His Royal Highness made to them in that charmed circle into which they alone approached—if they had, during those evenings, written down a short summary of what they had seen and heard, then I do not doubt that there were many Officers in the head-quarters' staff of the Army, who would have been willing to have remained up all night even, and to have again summarised those remarks, and prepared for print, a short epitome of each day's operations, with a few real and true statements of success and failures, endorsed by His Royal Highness, which might have been issued from day to day to the troops, so that each one might have had some idea of what he had done well and where he had failed.

Mr. CROOKSHANK, Assistant-Controller: I would just ask one question with reference to what Major Webber has said, and that is, whether umpires can totally dissociate themselves from the sides to which they are attached, and whether there would not be a difficulty in carrying out what he has suggested? I have seen umpires so completely bound up with what is going on on their *own* side, that they drew attention to bodies of troops coming against them. I merely adduce this in support of what Major Webber has said as to the difficulties umpires meet with.

Major BRACKENBURY: I have very little to say concerning what has fallen from the different Officers who have joined in the discussion. I am grateful to General Shute for supporting so warmly what I have very much at heart, and believe to be a most necessary addition to the training of the English Officer and soldier; that is

to say:—small manœuvres as preparation for the larger Autumn Manœuvres. I had already drawn attention to the point touched upon by General Cavanagh—the difficulty of infantry knowing when artillery are firing at them. There have been different means suggested for obviating that difficulty, and the suggestions have, I believe, been sent forward to the authorities, but as yet all proposals have been rejected. I do not myself quite see how mistakes are to be avoided. The problem is not easy of solution, and there is no doubt, that from the want of some means of informing troops upon whom artillery are firing—now that artillery acts at such long ranges—it frequently happens that guns fire without detection, at their own troops. There was one case, I am told, in which an umpire was sent for in hot haste to put a body of troops out of action. The gentleman who sent for the umpire suddenly discovered that the sufferers were soldiers of the same Army, and, when the umpire came, the conversation was turned. I do not know whether umpires are made of the same stuff as other human beings, but certainly having been myself attached to the umpire staff during the manœuvres of 1871 and 1872, I should say that an umpire working as hard as they have had to do all day, would think it a little severe to be obliged to sit up all night writing a criticism; I entirely agree with Major Webber as to the great benefit which would result, if we could but have some authoritative decision given to us on the results of the day's work, not so much by the umpires day after day, but by higher authority. Do not we all long to have a fair criticism from the highest authority on military questions? Surely nothing would be more conducive to general satisfaction with the manœuvres, or tend more to the contentment of Officers, than to have those questions settled, over which men's minds brood so much now. To Mr. de Fonblanque I have only to say that I had already spoken of the undoubted "energy and ability,"—I believe those were the words—of the Control Officers. The present arrangements are, by general consent, held to be quite unsuited to the supply of an Army in the field, however admirably suited they may be to the supply of an Army in garrison. With regard to any criticisms which may have been made upon the Control Department, or rather upon the want of harmony of action between the Staff and Control Department, it is quite certain that, wherever the fault may lie, they did not succeed in hitting it off together very well. There were occasions (I do not say whose fault it was, but somehow or other it so happened) when there was a serious amount of friction. There were also occasions when the Control Department purchased on the spot, because of the failure of their arrangements with contractors. For instance, once when hay was to have been delivered at a certain place, it was not delivered, for reasons best known to the contractor—and other hay had to be purchased on the spot. There were probably other cases of the same kind. No doubt the "energy and ability" of the Control Officers carried them through such difficulties, and I hope the same energy, the same ability, and the same good feeling which exists both in the Staff and the Control, will bring about an understanding between them, so that the country may be satisfied, that they will manage to work together somehow or another in war. In anything I may have said about the Control Department, I have not spoken without study. My best master has been Mr. de Fonblanque himself, and my text book, his valuable paper read in this theatre last year.

THE CHAIRMAN: Ladies and Gentlemen. It remains for me to ask you to pass a vote of thanks to Major Brackenbury for the exceedingly interesting lecture which he has given us. In doing so, you will perhaps, excuse me if I make a few observations upon what has passed this evening. First of all, I think Major Brackenbury made a very valuable suggestion when he threw out the idea that the manœuvres might be conducted in a more satisfactory and instructive manner, by giving two corps, opposed to each other, particular lines of communication and allowing them to work very freely, consistently with maintaining those lines of communication with their supports or reserves, whether real or supposed, behind them. I think that the result of such liberty of action would be a more decisive test of the Control Department, the effective working of which is one of the moot questions of the present day, and has such an important bearing on the organisation and administration of the Army. It appears to me that it is unfair upon the Control, to expect them to carry, for peace manœuvres, the large amount of stores which are required to prevent injury and unnecessary suffering on the part of the troops engaged, and

which would never be attempted to be carried in war. For instance, tents are things now which in war it is quite out of the question to think of carrying with an army; they are very bulky, and heavy, and absorb a great deal of transport. Then again with regard to hay and forage, I think in most countries cavalry would have to keep themselves to a very large extent, that bulky and weighty articles of that nature cannot possibly be carried for the supply of large bodies of cavalry. But I can see no reason whatever, why a system of requisition may not be adopted to a certain extent, even in peace manœuvres, by the Control having within the theatre of the proposed operations, dépôts of hay and forage, not necessarily purchased, but contracts for their purchase made, upon which, if necessary, the troops may make requisitions in the same manner as they would if they were working in a hostile country. I think that by a few arrangements of that sort, we might reduce the transport required for the Control, and the various duties, not only of transport but of baking bread, and many others, might be reduced more approximately to that practical shape they would assume in war. Major Brackenbury's recommendation, respecting which General Shute has spoken, that small manœuvres should be practised in the interval between the Autumn Manœuvres, is one of the greatest importance to the welfare of the Army. But the difficulties to which General Shute has alluded are undoubtedly very serious: I myself constantly see troops on the line of march with small advanced guards in front of them, that cannot send out a feeler on either side. They make long marches through narrow roads with hedges on either side and woods close to them; they cannot send out a man to look about them and protect their flanks. Those marches so conducted, in my humble opinion, positively do harm, because they teach soldiers what is totally inconsistent with warfare. If they are mere exercises to keep the men and horses in a good state of health let them be considered so, but they should not assume the mock appearance of an operation of war. Well then, gentlemen, with regard to these small manœuvres, I would venture to recommend that they should be carried a step further than has been recommended by my friend Major Brackenbury; I think the Staff want small manœuvres just as much as the troops. Some years ago, I had an opportunity in a foreign country, of seeing the work of a number of Staff Officers of all arms, who were sent out under a superior Officer selected for the especial purpose. They were accompanied by a few orderlies and went through a series of sham manœuvres on the ground which had a practical object, that object being no less than to determine the course that should be taken in case that country should be attacked upon a particular frontier. They manœuvred over that country, the Officers representing the Staff Officers of brigades, divisions, and corps. They examined the whole district, working upon a sound military basis, as devised by the superior Officer in command. The operations took some three weeks or a month, at the end of which the Officers all met, the country being fresh in their minds, having sketched amongst them the greater part of the best military positions; and discussed the defence of the adjoining frontier; the result was an admirable plan for its defence, drawn up and placed in the archives of the Ministry of War, in which the most important strategical and tactical positions were pointed out; the Officers who surveyed those positions afterwards drew up a memoir on their defence, accompanied by detailed plans, which were all placed in the archives of the Ministry of War, and in case of war could be handed to any railway contractor or person accustomed to organise labour; these works could thus be constructed independently of the Army, by the population of the country, and would add enormously to the defence of that frontier. Manœuvres of this character, which I had the honour some years ago to submit to the authorities as most desirable, are in fact, a sort of *kriegsspiel* in the field. We have all taken great interest in the *kriegsspiel*, it occupies a great deal of our attention, and if supplemented by manœuvres such as I venture to propose, in addition to those suggested by Major Brackenbury, would, I think, be attended with the greatest possible advantage to the Army; the Staff would learn to work together, to know each other well, to know the face of the country and its resources, the railroads, and the best means for utilizing and destroying them, as also other communications, and would in fact, become thoroughly aware of the intricacies of our own country, and would then be in a position to give the soundest possible advice as to the measures which should be taken for its defence.

I perfectly agree with Major Brackenbury, that any defence to be sound should not be passive but active, but the practice we should thus obtain in our own country of considering these questions, is precisely that which we should require in a foreign country. I think if the Staff were thus educated, there would be more certainty in the selection of Officers for Staff employment in war, and that they would very rapidly bring about a very different state of things throughout the whole Army. They would not hesitate in that case to make their observations freely and fully, and submit them to discussion, and thus get over that difficulty which has been suggested by Major Webber, of the observations made at the Autumn Manœuvres, not being known to Officers of the Army generally. I ask you to give your best thanks to Major Brackenbury for his most interesting lecture.

Eveuing Meeting.

Monday, February 3rd, 1873.

ADMIRAL GEORGE ELLIOT, in the Chair.

NAMES of MEMBERS who joined the Institution between the 28th January and the 3rd February, 1873.

LIFE.

Percy, Lord Algernon, M.A., Lieut. Grenadier Guards.

ANNUAL.

Braddock, Lionel F., Capt. 1st Surrey Artillery Volunteers.	Anderson, J., Lieut. London Scottish Rifle Volunteers.
Falwasser, Ernest B., Ensign 22nd Middlesex Rifle Volunteers.	Archer, R. H., Lieut. R.N.
Trench, Fredk., Capt. 20th Hussars, F.R.G.S.	Harris George, Captain R.E.
Legge, Hon. Henry C., Lieut. Coldstream Guards.	Cookesley, E. M., Capt. late 22nd Regt. Verity, C. F., Capt. 2nd Middlesex Rifle Volunteers.
Browne, W. H., Lieut. Bengal Staff Corps.	Bingham, R., Lieut. R.N.
	Crommelin, W. A., Colonel R.E.

LOWERING BOATS AT SEA.

By W. STIRLING LACON, Esq.

IN consequence of the accident involving loss of life which happened to the boats of Her Majesty's ship "Ariadne," in 1872, the subject was taken up in the House of Commons, and after debate, and strong expression of opinion by various Members, on the motion of Mr. Bouverie, the question was referred to the Lords Commissioners of the Admiralty, who "decided to appoint a Committee to inquire into the "question of the supply of life-boats to the Navy, the best lowering "apparatus adapted to the special services which men-of-war have to "perform, and generally into the best means of saving life at sea, "always bearing in mind the special character of Her Majesty's ships." The scope of the enquiry being thus limited (although two out of seven members of the Committee were appointed from the Merchant Service), the Committee reported upon the three plans which have been in use, or tried in Her Majesty's Navy—namely, Clifford's, Kynaston's, and the ordinary service plan. With regard to Clifford's, the report says, "Many failures, due to the apparatus, have occurred in lowering boats so fitted, and the Committee are therefore unable to recommend its adoption in Her Majesty's Navy." With regard to Kynaston's, the report says, "Though

"there are some instances recorded in which they have not acted satisfactorily, still they so nearly meet the conditions required, that the Committee feel justified in recommending their further supply to Her Majesty's ships. At the same time they are unable to recommend their use being made compulsory on Officers who are unwilling to adopt them." And as to the ordinary service plan, the report says, "The evidence does not record *the loss of a single life to Her Majesty's Service attributable to this fitting*,"* although the witnesses examined must have referred to an experience of many hundred instances of its use at sea. It possesses the advantage of simplicity, and enjoys the entire confidence of many experienced Officers, whose judgment is supported by the large success which has attended its use—a fact confirmed by the evidence; the Committee are therefore of opinion that this is the most satisfactory mode extant of lowering boats at sea." And further, "The Committee cannot recommend any of the inventions for lowering boats at sea by mechanical means, which have been brought before them."

Having twice lectured at this Institution on this question, and having for the last twenty years endeavoured to direct public attention to the subject, I appeared, and gave evidence before this Committee. But a gallant Admiral writes to me, "Your evidence is so given in the Blue Book, that it is impossible to make out what you mean." And it is so. I saw (I think I may say so) that there was but little disposition to accept the information which I was desirous of putting before the Committee, and the drawings which I was requested to send in, were not published with the others, but were handed over to the Admiralty, when the Committee broke up. The Admiralty have since deposited them in this Institution at my request.

I was desirous of recording information that might be useful to the public *generally*, but I was told "that the Committee wished to confine themselves to the Navy." But I could have given information that might be useful to the Navy, had I been so permitted. The report of the Committee says, that "the last accident appears to have been in 1835, to Her Majesty's ship 'Melville,' off the Cape of Good Hope, in bad weather, when both cutters *were lowered successfully* by common tackles for the rescue of an Officer and man overboard." But the following stands recorded in the *Journal* of this Institution:—Before the delivery of my lecture here on June 9th, 1858, I wrote to General Willes for the particulars of this melancholy case, he having been on board at the time, and he enclosed to me the following letter from Captain A. S. Hammond, R.N.:—"On the occasion of Sir John Gore's son being drowned off the Cape of Good Hope on the 30th of April, 1835, the 'Melville,' 74 guns, on board of which ship the Admiral's flag was flying, was lying to, under a maintop-sail. The courses were being hauled up, and topsails lowered on the cap, with yards braced in and secured. A man having fallen overboard from the weather foreyard-arm, Lieutenant John Gore, the flag lieutenant, jumped overboard to save him from the weather-quarter boat; and soon afterwards the lee-quarter boat was cleared away and lowered,

* The italics are mine.—W. S. L.

"with Lieutenant Fitzgerald and ten men in her, at which operation I attended. But in spite of every attention, from the heavy lurching of the ship, and her rolling to windward, a considerable quantity of water was shipped by her; and I am also of opinion that the boat was shaken by the blows which she received in striking against the ship's side in the act of lowering. In consequence of this impression, I spoke to the Captain (the present Rear-Admiral Sir Henry Hart, K.C.B.), and asked him if I might be allowed to take the weather quarter cutter, in case of any disaster having happened to the other boat, to which request he gave his consent, and I jumped into her, quickly followed by numerous volunteers, and a young middy of the name of Heath."

Gentlemen, I must here be allowed to pause. I also was a midshipman in those days, and I dined on board the "Melville" at Saugor, and sat at the same table with Lieutenant Gore, and probably saw many of the unfortunate men who were drowned; the other middy was the present gallant Admiral Sir Leopold Heath, the Senior Naval Officer of the Abyssinian Expedition.

The letter goes on to say—

"Any amelioration of the established plan of lowering boats would, in this instance, have been of infinite service: for I have never witnessed a worse occasion for lowering a boat during my experience at sea. From the weight of the men in her, and the constant lurching of the ship, we were nearly thrown out of the boat frequently, and I thought she would have been stove in from striking against the muzzles of the main deck guns; and before we could get the tackles unhooked, the indraught took us under the counter, and we had the nearest escape possible from being swamped by it. Fortunately we managed to get clear of the ship without mishap, and proceeded on our search, which proved, alas! a most fruitless one, as all hands were lost except ourselves. Don't you recollect," continues the writer, "when a man fell overboard from us, just after leaving the Sand-Heads, and a quarter boat was lowered with, I think, Crawford in her, and the boat's crew, and something happened to the boat's tackle-falls in lowering, and the whole of the men were thrown into the water, and they also went astern, together with the swamped boat, oars, bottom boards, &c., floating about. Fortunately no lives were lost, but there might have been."

I quote again from the Journal of this Institution:—

"On Saturday, the 20th of November, 1804, the English fleet, under the command of Admiral the Honourable W. Cornwallis, lay at anchor in Torbay; as it was late in the year, and the night dark and stormy, orders were given for the fleet to put to sea. Unfortunately in fishing the anchor of the 'Venerable,' 74 guns, the fish hook gave way, and a man was precipitated into the sea. The alarm was immediately given, and one of the cutters was ordered to be lowered. Numbers of the crew rushed aft to carry the orders into effect; but in the confusion one of the falls was suddenly let go, the boat fell by the run, filled, and a midshipman and two of the men were drowned. In a few minutes another boat was lowered, which fortunately suc-

“ceeded in picking up the man who first fell overboard. Owing to this delay, the ‘Venerable’ fell off considerably towards Brixham, and getting stern way, was unable to weather the Berry Head. Every effort was made to stay her, but the ship refused; and not having room to wear, she drove on shore at the north part of the bay, on a spot called Roundem Head, near Paignton. In sixteen hours from the time she first struck, the whole vessel had disappeared under the action of the raging surf, lashed into fury by the violence of the gale. The crew consisted of 590, of whom a few were drowned.”

Again,—

“The ‘Avenger,’ a steam frigate, Captain Charles Napier, with an armament of six heavy guns and a crew of 250 men, sailed from Gibraltar on the 17th of December, 1847. At 9 P.M. on the 20th of December, while running with square yards at the rate of eight or nine knots, she struck upon the Sorelli. The officers in the gun-room were upon the point of retiring to their berths when they were startled by a sudden jerk; the ship gave a heavy lurch, as if filling, and her whole frame appeared shaken, and every beam loosened. The Captain then gave the order ‘out boats;’ these were his last words, for he was immediately afterwards washed overboard and drowned. Whilst they were in the act of lowering the cutter, an accident occurred which was nearly proving fatal to all their hopes of preservation; in lowering the boat, the foremost fall got jammed, and the after one going freely, the boat had her stern in the water and her bows in the air. At this moment Dr. Steel threw in his cloak, which fortunately got into the shoave-hole of the after fall and stopped it. Just as the boat touched the water, and before the tackles were unhooked, the ship again struck heavily, and began swinging broadside to the sea, falling over to starboard at the same time, which, from the cutter being the port one, made her crash with great violence against the ship’s side. However, by dint of great exertion, the boat was got clear from the tackles, and pulled clear from the ship. Of a crew of 250, 246 were drowned.”

The report of the Committee states “the evidence is remarkable for establishing the fact that comparatively few accidents involving loss of life have occurred in Her Majesty’s Navy to boats lowered at sea.” How far this report may be satisfactory to the House of Commons, by whom the inquiry was instigated, remains to be seen. I can only regret that two of the Members of the Committee were unavoidably absent the day I gave my evidence, namely, the Duke of Edinburgh and Sir James Anderson. Of His Royal Highness it would be presumption in me to speak; but the man who conducted the brilliant enterprise of picking up the Atlantic cable, an exploit worthy of the genius of a great maritime country, is not the man to shelve any question that might be useful to the profession of which he is so distinguished a member.

Before passing on, I must be permitted to give opinions and facts other than those appertaining to the Navy, with regard to a system, an amelioration of which the House of Commons has expressed itself so

desirous of obtaining. The following is recorded by the Religious Tract Society, after the loss of the "Kent" by fire in the Bay of Biscay :—

"Although Captain Cobb had used every precaution to diminish the danger of the boat's descent by stationing a man with an axe to cut away the tackle from either extremity, should the slightest difficulty occur in unhooking it; yet the peril attending the whole operation, which can only be estimated by nautical men, had very nearly proved fatal to its numerous inmates. After one or two unsuccessful attempts to place the little frail bark fairly upon the surface of the water, the command was given to unhook. The tackle at the stern was, in consequence, immediately cleared; but the ropes at the bow having got foul, the sailor there found it impossible to obey the order. In vain was the axe applied to the entangled tackle, the moment was inconceivably critical, as the boat, which necessarily followed the motion of the ship, was gradually rising out of the water, and must in another instant have been hanging perpendicularly by the bow, and its helpless passengers launched into the deep, had not a most providential wave suddenly struck and lifted up the stern, so as to enable the seaman to release the tackle."

In the case of the Royal Mail steamship "Amazon," one of the survivors states :—

"The mail boat, when lowered, was immediately swamped with about twenty-five people in her, all of whom were lost. The pinnace, when lowered, sheered across the sea before the people in her could unhook the fore tackle; they were thereby washed out, and the boat remained hanging by the bow. While clearing away the second cutter, a sea struck her and raised her off the cranes, and unhooked the bow tackle. The fore end immediately fell down, and the people in her (with the exception of two, who hung doubled over the thwarts), were precipitated into the sea."

Lieutenant Grylls, R.N., stated :—

"The first boat attempted to be lowered was on the port quarter. Lieutenant Grylls was himself lowering the after-fall, when Captain Symons seized him by the arm, and besought him to desist, as he said everybody would be drowned. Lieutenant Grylls then called out to the person by the foremost fall, imploring him not to lower, as the ship was going so fast. The person at the foremost fall, by constant and urgent request of the people in the boat, let the fall go, by which means the boat turned over, and, as nearly as could be seen, every one was washed out of her. Seeing this at the moment, Lieutenant Grylls attempted to let go the after-fall, so as to save them; but the fall being jambed, and having fouled, and the boat thus not being clear, her stern hung in the air for the moment, until cut adrift by some one, when she turned over, and, seeing the people washed away, Lieutenant Grylls turned aside from the appalling sight in horror."

Mr. Neilson states :—

"In the meantime, the aftermost boat on the port side (I think the mail boat) was lowered down, with probably twenty-five people in her; but the moment she touched the water she swamped, and all

"hands that were in her drifted astern, all clinging together with dreadful shrieks. The next boat forward (the pinnace) was also lowered full, but by some accident the after tackle alone got unhooked, and she was dragged forward by the foretackle with such rapidity that the sea swept round her sides, and washed every soul out of her. At this time the second cutter had reached the water, when a sea struck the bow, and as the ship rose from the swell of the waves, she lifted the boat perpendicularly by the stern tackle, and discharged all the unfortunate inmates but two, who hung shrieking across the thwarts."

William Angus says:—

"In attempting to lower another boat on the starboard side (the first cutter), the stern fall was let go too quickly, and on dipping into the water, the boat was drawn to the side of the ship, and the people thrown into the sea."

Isaac Roberts stated:—

"In lowering her down, unfortunately he let go the fore tackle, and threw the people, about eighteen or twenty, crew and passengers, into the water."

George Webb says:—

"The Chief Officer, and several others, were clearing away the after-most lifeboat. He jumped into her, and got hold of the tackle, and lowered her down. Some one else lowered the bow. Before the boat touched the water, the after tackle fouled, and he took out his knife and cut it."

Henry Wright says:—

"When in the boat, preventing her from being swamped by trying to clear the fore tackle-fall, the block caught his left hand, and took off the tops of his two middle fingers, and smashed his little finger;" and Alexander Lang, quartermaster, says "that he went to the wheel, but it was fouled by the tackle fall of the dingy."

It was a terrible visitation; this ship on fire, in a dark night, gale of wind, and tempestuous sea, *tearing along at full speed*, without their being able to stop her, and dragging her miserable crew to destruction, and among them the accomplished author of "The Crescent and the Cross;" but "the Committee entertain grave doubts whether, however admirable the lowering and disengaging apparatus may be, it is wise to man, and lower a boat in any considerable sea, *while the ship is rapidly advancing through the water.*"* But time and tide will wait for no man, nor will the progress of events stand still in order to keep pace with the minds of the Committee. No man in his senses would lower a boat at *full speed*, if it could be avoided; but if a boat can be lowered safely at *full speed*, it is evident that she could be lowered safely under other circumstances. Other cases might be quoted, such as the loss of the "Orion" on a fine summer's evening, off the coast of Scotland, where, "while lowering the starboard quarter boat, the bows were down in the water, while the other end hung by the tackle, and one or two tumbled out of her; and while the port lifeboat was being lowered, there were one or two tumbled out of her." Or, in the

* The italics are mine.—W. S. L.

wreck of the "Conqueror," near Boulogne, where "the ladies, children, and servants were handed into the cutter; the water was not a couple of yards off her bottom, but the falls of the tackle had got so entangled with the rest of the cordage on the poop, that they were not able to lower them. The Captain cut the boats from the davits."

When I had the honour of conducting the Crown Prince of Prussia over this Institution, he did not seem to be so much impressed with the arms or models, as with this theatre. He said, "Ah, there is the value of your Institution." It is a fortunate thing for this country that there is some place where such things as I have detailed may be made known. That such things are of the deepest interest to the great steamship companies and the travelling public, I will quote from the lately published work of an American gentleman, "Around the World by Dr. Prime." He says, speaking of the Pacific Mail Steam Company's ship "Japan," 4,351 tons, between San Francisco and Japan and China:—

"The ship carries thirteen large lifeboats, all ready for launching, each one capable of floating some fifty persons or more; but it adds very little, to my sense of security, to see this array of lifeboats. In those sudden emergencies, which constitute the chief dangers of the sea, it is seldom that they are successfully launched, or prove of any essential service to the mass of the passengers."

The evidence I have adduced, and the labours of men who for years past have endeavoured to procure an amelioration of the present system (a list of those who have deposited their plans in this Institution is given at the end of this paper) are sufficient proof of the dangers attending. "this ordinary service plan." In using these tackles, it requires two men in the boat, one at each fall to unhook, and on board the ship, two men to lower and two men to clear the falls, no easy matter where the falls are little used, and where, as in the case of the largest merchant steamers, each fall is 22 fathoms, or 132 feet long (the davits of the "Princess Royal" are 45 feet from the water, consequently the falls must be five or six times that length, or at least from 230 to 270 feet long). Under any circumstances it requires the greatest unanimity of action on the part of these six men; but how is this to be insured during periods of excitement and danger, and during dark nights? If one of the falls should be lowered too quickly,—if one of them should foul, or be accidentally let go, then one end of the boat having reached the water before the other, it is impossible for the men in the boat to unhook at the same time, and an accident must inevitably happen. Or, supposing that all has gone right on board the ship, and that before the boat has reached the water a sea should lift the stern of the boat and unhook the after tackle, then the boat would sheer across the sea before the people in her could unhook the fore tackle, and they would thereby be washed out, and the boat would remain hanging by the bow; or, if in the act of lowering, a sea should strike the bow and unhook the fore tackle, then the fore end would immediately fall down, and the people be precipitated into the sea and drowned. Not only is this operation of lowering boats attended with so much difficulty and danger, but it is an extraordinary fact that it is in direct opposition to

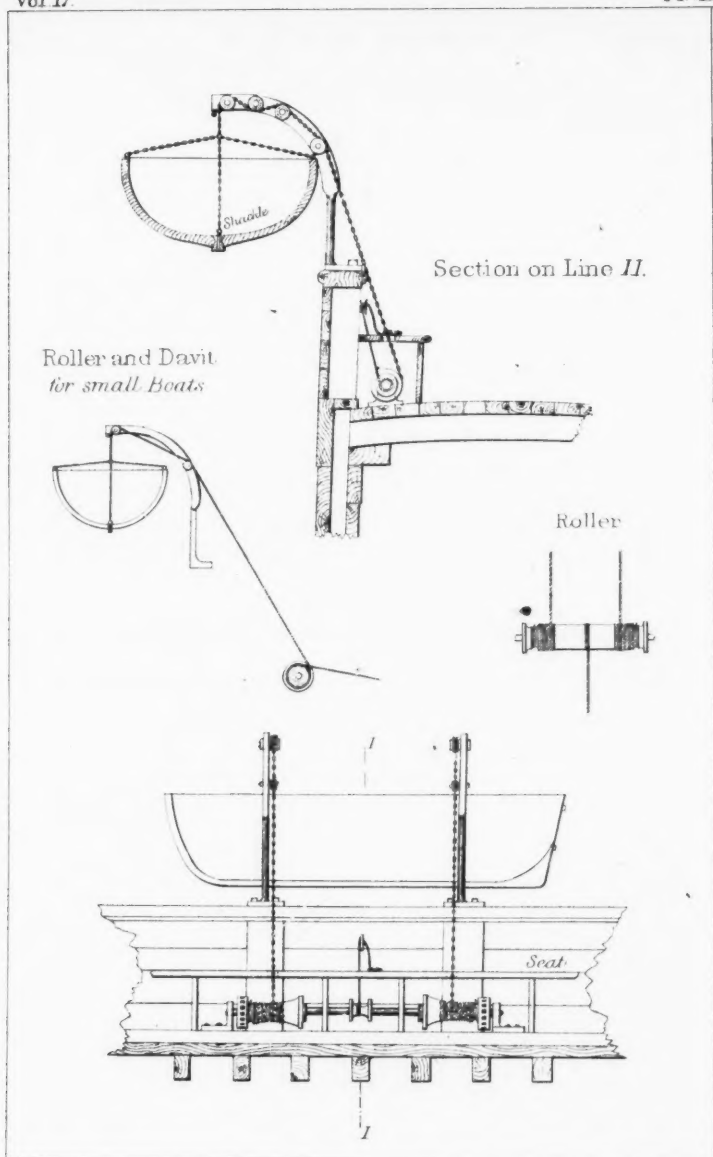
any mechanical operation of the like character. It is an acknowledged principle of mechanics that to raise a weight requires a power; but what is gained in power is lost in time. We see it in the every-day operations of raising a weight, that when the weight has attained the requisite elevation, the power is disconnected, and a break, or other analogous contrivance, is substituted, in order to regulate the descent. Why, therefore, should not the same plan be adopted in the case of weights (*i.e.*, boats) which remain for a lengthened period at the requisite elevation, and which are only required on sudden emergencies? Sailors themselves acknowledge the principle, and carry it into effect, as in the case of the anchor. When the anchor has been elevated by means of the chain and capstan to the level of the water, a tackle called the "cat" is used to raise it to the level of the deck; this is the power, and sailors know very well that if they were to allow the same to remain, the anchor could never be used on sudden emergencies; they therefore substitute a single rope or chain (called the cathead stopper) and remove the tackle. They remove the one tackle from the anchor; why, therefore, should they not remove the two tackles from the boats, which it has been shown in their use require the greatest unanimity of action? Many Captains of ships have acknowledged the principle, even in the case of boats, for they have unhooked the tackles and substituted single ropes or pennants; but in doing so, they have aggravated the disease without substituting a remedy, for, it must be apparent to every one, that if, in lowering with the tackles, there was danger of a heavy boat going down by the run, that danger must be considerably enhanced where the weight has to be balanced and controlled by a single rope.

(I see many landmen present; I must tell them that sailors are very funny fellows, and have a language of their own. They first cat the anchor, and then they fish it; still Jack is a character we should do well to cultivate, for England may rue the day when she turns her sailors into stokers and pokers.)

Through the press I have stated as follows:—"A screw steamship shall be fitted with four boats on either side of her, and I will undertake, with one man stationed at each boat, to put all of them, full or empty, safely and securely into the water, within one minute of the order being given to lower, *the ship going at full speed.*" If this is no mere theory or vain boasting, then it will be seen how valuable such an instantaneous system must be in these days of monster ironclads, which, if they do go down, will probably, like the "Captain," go down like a stone, or to the light armour-clad ship, which may be sunk by a shot from one of the monster guns now adopted.

Twenty years ago, the plan which follows was fitted to two of the South Eastern Company's steamers at Folkestone, and in the presence of several thousand people, I, accompanied each time by four men, was lowered six times, *the ship going at full speed*, or at the rate of $12\frac{1}{2}$ knots an hour. A certificate, signed by Admiral Sir Edward Tucker, Admiral Hathorn, and twelve other nautical men, testifying to the perfect success of the experiments, was forwarded at the time to the Admiralty; but although, according to the Committee's report, "they have had

[illegible]



J. Jobbins

"access to and have examined all the records existing at the Admiralty "since the commencement of 1852, which bear on the questions "referred to them," they have not considered a plan where such results have been obtained worthy of any other fate than being stowed away at the Admiralty, to be out of sight and out of mind.

I will now describe the plan, of which the engraving on the opposite page is a representation.

The Boat.

Eye-bolts are driven through the keel, at the bow and stern, and are clinched. The position of these two eye-bolts will determine the distance apart of the two davits, and the two outer drums to be hereafter mentioned. If the boats are intended to be swung inboard, the eye-bolts must be near the bow and stern of the boat; if not, then they may be nearer towards the centre of the boat.

The Chains or Rope Pennants.

At one end of each rope pennant or chain is a shackle to attach them to the two eyebolts. Just above the thwarts two smaller chains lead from the main chains, and are attached or hooked to each gunwale to prevent the boat from canting, and at the other end of each chain or pennant is spliced on a length of about 25 feet of lead line with an eye at either end.

The Davits.

At the outer end of each davit is an eye-bolt for hooking on the tackles, and in the davits three sheaves, one over or before the other. (If on experiment three sheaves should not be found to be sufficient to control the descent of the heaviest boat, then five, or the pulleys or sheaves must be placed closer together.)

The Roller or Drums.

On board the ship is a roller, or three drums attached to each other by an iron bar. To the centre drum, and round which it is coiled, is attached a rope. On one end of each of the outer drums is a groove for receiving the small lines before-mentioned, and a pin on which the eye at the end of each line is to be placed.

When the boat has been hoisted up by the tackles, the ends of the lead lines are passed over and under the sheaves alternately in the davits, and brought inboard and placed over the pins on the drums. By gently pulling upon the centre rope, the drums are made to revolve, the lead lines are coiled in the grooves for their reception, and the chains or pennants packed upon the two outer drums. When the whole has been hove in and set taut, the centre rope is belayed round a belaying pin or cleat, the tackles are unhooked, and the boat is stowed.

The roller or drums may now be boxed in, or, as was done in the case of the South Eastern Company's steamship "Princess Clementine," covered over with a seat for the passengers. It is worthy of remark that one pair of tackles would be sufficient for all the boats, and these may be kept below, free from the influence of the weather.

In the drawings, the two outer drums are capstan-headed; this is not necessary for lowering, but on board the "Princess Clementine," two men hoisted up the boat by means of handspikes without the intervention of tackles.

Care must be taken that the chains or pennants shall be too long, rather than too short, making plenty of allowance for the light and deep draught of a merchant ship.

Lowering.

One man at the centre rope lowers, and, being on board the ship, can watch the opportune moment to drop the boat into the water. If the boat is lying quietly alongside, the chains or pennants are lowered into the boat by means of the lead lines. If the ship has way on her, the boat will drag away the chains, and they will fall harmlessly into the water. They can now be drawn into the boat, where they will act as ballast; or if the boat is going away for any length of time, they can be unshackled and left on board the ship. In merchant ships, where the boats hang from the davits for a lengthened period, the use of chains instead of ropes would avoid the necessity of freshening the nip.

I regret that time will not enable me to allude to the various plans which have been brought forward from time to time for "lowering boats at sea," showing at least how much it is a want that is felt by the public; but as my opinion was asked by the Committee with regard to Clifford's and Kynaston's, I may say that, twelve years ago, I brought forward Clifford's plan in this Institution, because I was desirous that the public should have some amelioration of the present most dangerous system; but there are these disadvantages attending Clifford's system, the man lowering being in the boat cannot see what he is doing, and very likely lets go into the trough of the sea at the very moment when he should not do so, and the boat itself must be disabled by the heavy roller which is in her. Kynaston's plan does not do away with the very objectionable method of lowering by the tackles, although a Lieutenant told me that he would not use the tackles. I asked him what he meant? He said he should wait till the ship rolled, and then drop the boat on to a sea from the davits. Whether the lifeboat of Her Majesty's ship "Serapis" had her bottom knocked in by this method, I am unable to say.

With regard to the "Challenger," her boat was fitted with Mr. Hill's plan, and Neptune did for them what the smart Lieutenant proposed to do with Kynaston's,—a sea struck the bottom of the boat, and disengaged her, whereby she was lost to the "Challenger," and to Her Majesty's service. Admiral Richards has written to me that this was through no fault of the system, and I believe the inventor claims it, as showing the merit of his plan.

The following plans for lowering boats at sea have been deposited in this Institution, where they may at any time be consulted by persons desirous of obtaining information on the subject:—

Iacon's (1852) ..	Journal of the Institution, pamphlet and plan.
Clifford's (1857) ..	Journal of the Institution, pamphlet and model.
Kynaston's ..	Pamphlet.
Russell's ..	Model.
Simpson's ..	Model.
Kilner's ..	Model.
Hill's ..	Journal.

Gentlemen, you must form your own conclusions from what you have seen and heard. What I wish further to put before you, points the moral of my tale.

The following is taken from the Journal of this Institution, August, 1866; it is an extra number, devoted entirely to "The Loss of Life at Sea," in order that the attention of the authorities and of the public might be directed towards it. In February, 1853, the *Times*, in a leading article, says:—"As the 'Queen Victoria' was lying in the 'Liverpool Docks last July a gentleman, competent to observe such matters," (and when I mention that he is a member of the Council of this Institution I think it will entitle him to a favourable consideration at your hands), "noticed that her boats were indeed sound and spacious, but that they were enveloped in strong canvas, painted black, and actually laced below the bottom of the boat, while the machinery for lowering them was so defective as to be virtually unserviceable. So absolute indeed was the default of any proper precautions against sudden accident, that the observer called one of the seamen to him and pointed out the circumstances, and remarked that the day might come when this inattention to apparently small particulars might cost many lives. That day did come (within six months), and the lives have been sacrificed accordingly." "The morning was fine and the water smooth. The two life-boats, which ought to have saved so many, appear to have gone down with the vessel." (They were not disengaged from her till sixteen hours after the accident.) "The result is that the lives of fifty-nine persons, including the unfortunate Captain, have been sacrificed."

Of the recent terrible calamity (I refer to the loss of the "Northfleet"), I wish to say but few words. The heart of the country has been profoundly stirred, and no words of mine could paint the horrors on the deck of that ill-fated ship during that awful night. But I must point out to you that the ship was lying at anchor, surrounded by other vessels, and the shore-lights at hand; the water was comparatively smooth, and an interval of three-quarters of an hour intervened between the time of the collision and her going down; but of all her boats two only were available, and of these two, one was stove in, and the other cut from the davits; yet this ship was fresh from Board of Trade inspection, the Emigration Commissioners having very recently been superseded by the Board of Trade.

You have seen how this plan which I have submitted to you was treated at the Admiralty. The Emigration Commissioners refused to

see it. I offered to submit it to the Board of Trade, or to any persons to be deputed by them; they also declined even to look at it. My only object is to make it available for the benefit of the public.

Captain WELLS, R.N.: I should like, Sir, to offer a few remarks upon this lecture which has been an interesting one, and to which we have all, I am sure, listened with a great deal of attention. But at the same time certain remarks were made about the Committee which, to a great extent were, I think, undeserved. The naval members of that Committee are most distinguished Officers and thoroughly known and appreciated by the whole of the Service, and I need not say that the two mercantile Officers are equally distinguished in their relative positions. We have seen Mr. Stirling Lacon's model, and no doubt it works very quickly as a model. But the objections which I have to offer to the contrivance are these. In the first place, if the pennants were worked with chains instead of ropes, I for one should decline to go in the boat at all. In the next place, if the vessel was going through the water (when we know the length of that pennant must be at least 40 feet, the poop of a line-of-battle ship being some 26 feet above the water, must allow for the length of the davit), I have some doubt in my own mind when the boat was shoved away from the side of the ship, if we should not have the end of the pennant in the screw-well. Another remark I have to offer is this. It is proposed to have a number of sheaves in the head of the davit to take the nip of the pennant. Now, although the objection to the chain is quite established in my mind, still, having it rope would be also objectionable, inasmuch as rope is liable to swell; and in the next place, we know what a dead nip is, and the great objection which all naval Officers have made to Clifford's apparatus is, that very dead nip, and the single pennant. I have seen Clifford's apparatus and Kynaston's, as well as the old fashioned plan we have in the Service. I have constantly tried them, and I have been lowered both by Kynaston's and Clifford's apparatus myself, and on one, if not two or three occasions, with Clifford's apparatus after rainy weather; the rope having been made of softened hemp, was found to have swelled tremendously. On the other hand, the objection to the Kynaston's plan is the manner of freeing, which the man has to do in the boat, and as I have seen myself, the boat has been suddenly freed six feet above the water. This invention of course would free itself from the davits, provided it rendered, which I think somewhat doubtful, at all times; however, if it is rope, and does render, some of the boat's crew would have possibly a very severe blow, not to mention the fouling of the oars. The model works very well and very prettily, but whether the plan would work with a heavy line-of-battle ship's or one of the iron-clad's cutters and 14 men in it, is, I think, somewhat doubtful; at least I should like to see it verified before I would allow it. I think the objections which I have raised to the plan have some weight. It certainly has all the faults but one of that of Clifford, and I think it has an extra one of its own, which to my mind would be impossible to overcome.

Colonel STRANGE: May I ask whether this plan has been tried in the Royal Navy?

Captain WELLS: It has not to my knowledge.

Captain BALFOUR, R.N.: I feel diffident about saying anything, but I hardly understand that principle of lowering, whether it is in the way of Clifford's or not; but from what I understand, those pennants are rove in the boat, and they are brought on board and require a certain degree of manipulation, and that one man in the boat cannot let go the apparatus at once. I do not know whether I am right?

Mr. STIRLING LACON: It is let go on board the ship, and not in the boat at all.

Captain BALFOUR: The principle to be desired is, that the boat should be relieved when she touches the water. In Clifford's plan I think you cannot relieve the boat till she sheers. I do not know much about Kynaston's plan, but it has a quantity of gear, and you do not relieve the boat at once. I have a plan of my own, which I am sorry I cannot bring forward in the short time allowed to me to-night. That plan is, that directly the boat touches the water, she is relieved without all that supernumerary gear, with the old tackle and fall, and without any gear but what

is contained in the bottom of the boat. I hope I shall be able to bring the whole thing before you very shortly.

Captain FREMANTLE, R.N.: One thing, I think, has been made exceedingly clear, namely, that it is easier to destroy than to construct. I have seen Clifford's and Kynaston's, and we have now had Mr. Stirling Lacon's plan described to us; at the same time I am not at all inclined to give up the idea of obtaining something very superior to the present Service plan. I quite agree with Mr. Stirling Lacon in what he said as to the question of lowering, but I think he rather understated the case. He said for instance, we must have two men in the boat, two men lowering the falls, and two men seeing the falls clear, and that makes six men. Now everybody is perfectly aware that at least there must be a seventh to secure anything like safe lowering, and that is the most important of all, the Officer or man who sees to the boat being lowered, who is looking over the side and says, "Hold on the after fall," and so on. Under those circumstances I think we certainly should not stop short of some system which is superior to that, and I venture to think Mr. Stirling Lacon is also perfectly right in the view which he takes, which is that something better for lowering must be had than the boat's falls. I think that is a *sine quâ non*. I think, amongst the dangers and accidents which have happened in lowering boats, the most fertile of those dangers is the jamming of one of the falls. I think it is quite unnecessary for me to mention that, to an Officer who can give such a good opinion on the subject as no doubt you will yourself, Sir (referring to the Chairman). That is then one thing which we must guard against. Viewed from that stand point, I must confess the praise which has been lavished upon Kynaston's is, to my judgment, rather undeserved. If the fall jams, Kynaston's is a failure; therefore, if it be a necessity that we should have something which does not lower by the falls, why we must put Kynaston's out of court. Then we come to arrangements such as Clifford's and Mr. Stirling Lacon's. Now I am afraid Mr. Lacon's was pretty well cut up, to use the common expression, by Captain Wells. Captain Wells mentioned several objections, but an additional one occurs to me, and that is, that in unreeving the small lead-line which has to pass round several sheaves, the probability is the small lead-line will jamb between the sheave and the davit, and if that is the case, it strikes me we shall have the boat broadside on and capsized. I have paid some little attention to a good many of the boat-lowering apparatus, and there is no doubt, as has been stated, that the soft Manila rope used in Clifford's will occasionally swell and jamb. All of us who are sailors must at least recollect certain occasions on which this has taken place; I can recall one or two in my own experience, and other Officers will no doubt be able to recall cases of the kind. Another objection is, that the pennants are only of a certain length, which is supposed to be sufficient to allow the boat to reach the water. No doubt if a vessel gets stranded high and dry, and you want to lower a boat by Clifford's plan, you will find perhaps the boat will be a considerable distance above the water, and Clifford's apparatus will be more or less a failure. But I do think the objection made to lowering by Clifford's plan because it has to be done by one man in the boat, has been made rather too much of. I think the instances of lowering by Clifford's have been most successful as a general rule, where the pennants have been properly looked after, and have not been allowed to swell, and where consequently they have not jammed, and this can easily be ensured against, I fancy, by keeping the boats always hung by the tackles with merely a slip which can be knocked off the instant you have got into the boat. Under those circumstances, no strain being on the pennants, if they are looked to frequently, they will not swell or jamb. The boat can then be lowered with perfect safety, and I venture to say, though there are objections to it, yet on the whole with due deference to the opinion of the Committee on boat-lowering, that Clifford's arrangement has proved itself to be the most perfect of all those that have hitherto been tried. At the same time, I am very glad that Mr. Stirling Lacon has brought this before the "public," as he is pleased to call us, and I hope it will continue to be ventilated, and that we shall have something which is a great deal more perfect than anything which has hitherto been placed before us.

Mr. HENWOOD: I should like to ask Mr. Lacon if he can explain in what way Hill's lowering apparatus failed? From what I remember of the plan when Mr. Hill read his paper here, I can see no possible way by which the boat could be disengaged,

unless it was disengaged by the man in the boat. As regards the fall jamming, if one fall jams, the other jams also by the arrangement of the falls, by a system of rollers inside the bulwarks of the ship, so that one end of the boat will not be lowered without the other is lowered, but if there is a kink in one fall, that will stop both going; they both run or they both jam.

Captain COLOMB, R.N.: Sir, whenever I hear of a new invention, and the probability of its success or non-success, the first question I ask myself is, "How much more trouble is it going to give?" because I have observed generally that inventions which are new and successful, generally get rid of some existing trouble—they supersede something. Usually when they do not supersede anything, but add an extra trouble, I find the invention does not go down very well. Objections have been made to Clifford's apparatus, for instance, which are no doubt sound and good as far as they go, but I have always taken that the real objection to it was, this extra trouble. I should imagine that the same objection would lie against Mr. Stirling Lacon's plan; there is a certain amount of hooking and unhooking of the falls, a certain reeving and unreeving of the pennants, all things which occupy time and give trouble, and we have a great deal too much trouble, and not too much time usually on board ships, especially on board merchant ships. I have always thought with respect to boat-lowering apparatus, that a really good one must possess three qualities: 1st, the boat must be lowered square by one man; 2nd, the same apparatus which is used to lower must also be used to hoist up; and 3rd, the water, and nothing but the water, should disengage the boat. So soon as we get those three qualities combined in a boat-lowering apparatus, we shall have what we want. I can only say that I have not seen as yet more than two of these three qualities in any boat-lowering apparatus. We have here in Mr. Stirling Lacon's plan the one man lowering the boat; so far I should say that is good. But the water does not detach the boat; on the contrary, the boat may be lowered half way down, may be met by a sea, and dashed against the ship's side with slack tackles, it being impossible to disengage her. She may then come down with a jerk, as we know will happen, and men may be thrown out by that jerk. In Clifford's, in the same way you had precisely the same defect, but of course Mr. Stirling Lacon's, so far as it goes, is better than Clifford's, inasmuch as the work of the one man is done inside the ship, instead of in the boat, which all admit to be an advantage. Both Clifford's and Mr. Stirling Lacon's enjoy the advantage of the boat coming down square, which is a very important matter. Now Kynaston's plan does not enjoy that advantage of coming down square. It does not detach on reaching the water, but it is very nearly the same thing, because it can be detached at any moment, which is not the case with either of the other two. But Kynaston's, as Captain Fremantle has very properly remarked, possesses that very great disadvantage, that there is the chance of jamming the falls, and one fall being lowered and the other held on. Those are three plans before us. If I am right in supposing that the three qualities I have mentioned are those necessary for a perfect boat-lowering apparatus, it is quite clear that neither of those three plans are perfect, and I presume that until we get a perfect plan, no committee that ever sat would recommend the doing away of that which, however inefficient it may be, has been in use for such a number of years.

Mr. GUMPEL: No one can question the noble object Mr. Stirling Lacon has in view in bringing forward this plan, but still I must confess that it has its deficiencies, though perhaps in minor points. One point which has been overlooked is this, that as soon as the boat reaches the water, it sheers off, and brings these chains into a position in which they do not fairly run over the sheaves; a kink, or anything of that kind might occur, and a stoppage take place in the sheave, or davit. These things are likely to happen with this apparatus, and that is only one of many other objections which can be raised against it. The last speaker mentioned three requisites for any boat-lowering apparatus, the first being to have one man to lower from inboard. Now this can be done with common falls, by means of a simple apparatus, one man can at the same time see the boat, and, by means of a lever, allow the boat to go down on an even keel at any speed, and at any moment he may choose. I can show that at any time, and if permitted will bring the whole thing before this Institution. The second requisite was that the boat should be disengaged as soon as she reaches the water. This, too, can be done; a certain form of hook can be attached to the

existing block, and be made so as to disengage itself as soon as the boat is completely waterborne, not like Hill's, which is not always disengaged when the boat reaches the water, since there are cases in which the strain is constantly kept on the hook, even after the boat is afloat, and the hook cannot disengage. The only way it does disengage is when the wave strikes the boat, and suddenly disengages the slings from the hooks. I say that is the only way in which it can be done, and it is admitted by people who have tried it, that when a boat is lowered in smooth water, with good way on the ship, as soon as the boat reaches the water, the strain is kept on the hook, and the hook does not disengage. All this can be avoided by a very simple contrivance. The boat, as she becomes waterborne, disengages herself, and the hook can be so constructed that when the boat hangs on the falls, it requires the pull of the weight of the boat to disengage it, or you may make it so that the pull of half the weight of the boat will disengage it. She does not disengage until she is completely waterborne. I am prepared to show this. Now comes a third point, that of using the same tackle for raising the boat. This also can be done, it is simply a question of cost. To the arrangement which I have devised for lowering the boat, a small windlass could be attached, enabling, according to the weight of the boat, one or several men to hoist her.

MR. HILL: I am not getting up here to criticise or find fault in any way with any apparatus, but, quite unexpectedly to myself, I heard my name mentioned by Mr. Lacon, in his paper, in reference to my invention which has been tried on board the "Challenger." I have not met with one sailor who could advance any great objection against the invention, and I rise here now to ask if any gentleman who is here can point out any faults therein. I may say I hope soon to have a model which every one may inspect in this Institution. Now in order to show you that the loss of the "Challenger's" boat from the davits must not be considered adverse to the invention, I will read you a copy of the report which Captain Nares sent to the Admiralty. "The port quarter boat fitted with Messrs. Hill and Clark's Patent Disengaging Hooks, had been kept ready for immediate lowering, with the safety pins out. As the men were about to enter the boat to replace and secure them, a very heavy sea, combined with a lurch, dipped her in the water. The hooks immediately slipped (as is Mr. Hill's intention), and the boat was washed from the davits. Before steps could be taken to recover her, the foremost thwart to which the boat rope was attached, was carried away, probably in consequence of the boat being struck against the ship's counter, and she drifted astern, and was lost.

"Although this boat was undoubtedly lost in consequence of the falls being fitted with Hill and Co.'s disengaging hooks, I still think them most valuable, and on seeing the boat ready for lowering with the safety pins in, which prevents the falls unhooking, I made the men try to draw them out, and finding that they could not do so without first using a marline-spike to twist them round, I ordered them to be kept out. The pins were probably in the present case a little large and stiff, through being galvanized."

The galvanizing was done at the last moment, and that accounted for a little stiffness. Captain Nares ordered me to fit another boat with the apparatus, and the "Challenger," I am happy to say, has arrived at Gibraltar with that apparatus on board, and no account of any further accident has been recorded.

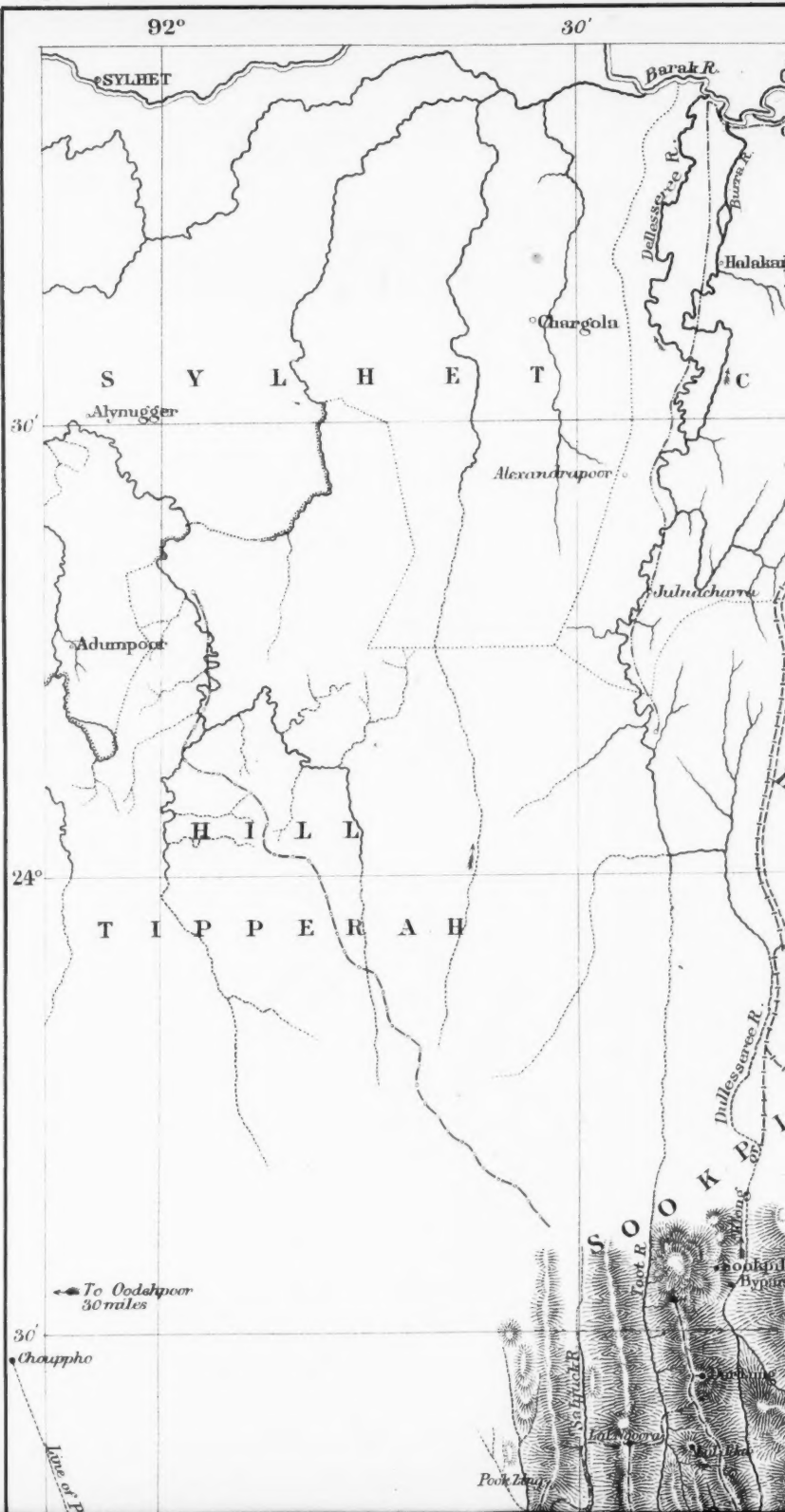
In conclusion I may add the "Challenger" is not fitted with our lowering gear, but simply with our patent disengaging hooks. The lowering gear enables one man to lower the boat upon an even keel by the old falls, without fear of accident.

THE CHAIRMAN: I believe it is not the duty of the Chairman to criticise, but rather to try and make matters as pleasant as possible for all parties. I wish, however, to make one remark with regard to the old Service plan, because I think it will be useful. If boats are lowered into the sea in the manner just displayed to us, there would be great difficulty in unhooking the tackles, even if the boat came down fairly; but the "Phæton" having been alluded to, I must tell you that in that ship we always had a strong boat's painter passed forward along the ship, and stopped up to the main chains, just sufficiently long, so that when the boat touched the water the painter caught the boat and kept her from going aft, so that the men in the boat could unhook the tackles. With this precaution I have never had any hesitation in smooth water in lowering quarter boats when the ship had headway. I believe that

another matter has been very much neglected. We have been fitting our quarter boats, which is quite necessary, but we have neglected our stern boat. I believe a boat can be let go from the stern and let run on Mr. Lacon's or any other similar plan. It is generally a smaller boat, and therefore I have found that by having the stern boat fitted so that she could be let run with a pennant in the manner just described, it can be done with more safety than from the quarter, because there is no doubt that where a boat is slipped from the tackles, either on this or any other plan, strict attention must be paid to the roll of the ship, which is not an easy matter, and if any mistake is made in carrying out these complicated arrangements, the consequences may be very serious. One or two remarks have been made which I may just notice. One was with regard to letting these chains drop on the men. I do not think much of that, nor do I think that the chain could get into the screw well. I do not think that the chain would injure the men, but if it did, you might splice a rope on to the end of the chain. I dare say it would not be pleasant to have it on one's head, but I do not think it would injure a man, and Jack does sometimes stand a good crack without caring much about it. Then it was said that the lead-line would interfere, because if the lead-line happened to jamb, the boat would be swamped by it. I do not think the lead-line would hold on. I think it would break immediately such a strain came upon it. I do not know that an Officer is ever placed in a position of greater responsibility than he is when he is called upon in bad weather to decide whether to lower a boat after a man who has fallen overboard, because the question is this, whether you are not going to lose perhaps eight or ten men in the endeavour to save one. I have heard what my friend Mr. Stirling Lacon has said, and I should really prefer his plan to either Kynaston's or Clifford's. I have never adopted either of those plans, because I considered that they were just as likely in the long run to cause accidents as they were to prevent them; that was my opinion. For that reason I always fitted my boats in the ordinary way. I consider Mr. Lacon's a very sensible plan for smooth water, but I see the objection of letting go when the ship is not on an even keel. If the vessel happened to be rolling heavily, the boat might be let go at some distance from the water, which would be objectionable. This question of submitting plans by models is, I think, most unsatisfactory, and few have the opportunity of having them put to actual test. The question of saving life at sea is one to which many may remember my name has been attached for a very great number of years. I have always had it on my thoughts. I think a good deal could be done to save life at sea, and I think very little has been done. I hear that in the United States they have an association for the purpose of promoting the safety of life at sea, and that that association has done a great deal of good. I am happy to say an association of a similar kind has been formed in England, and will be heard of in a very short time. I trust everybody who can, who has this great and important question at heart, when they see this opportunity afforded them will come forward to assist that association to promote safety of life at sea, by putting a model merchant ship into the water to contain all the best means and appliances by which life can be saved, whether it be for the lowering of boats, or for saving the breaking of chain cables, or preventing collision, which is the most important thing of all. We have railways on shore; we have the Board of Trade enforcing railway breaks, not only that, but enforcing the adoption of the very best break that can be procured. At sea we have ships running with a screw propeller which has no power whatever to arrest the progress of the ship, and until we do get a break of some kind to our ships we shall never stop collisions, because if the helm happens to be put the wrong way, on the ship must go, and she must go over everything in her way.

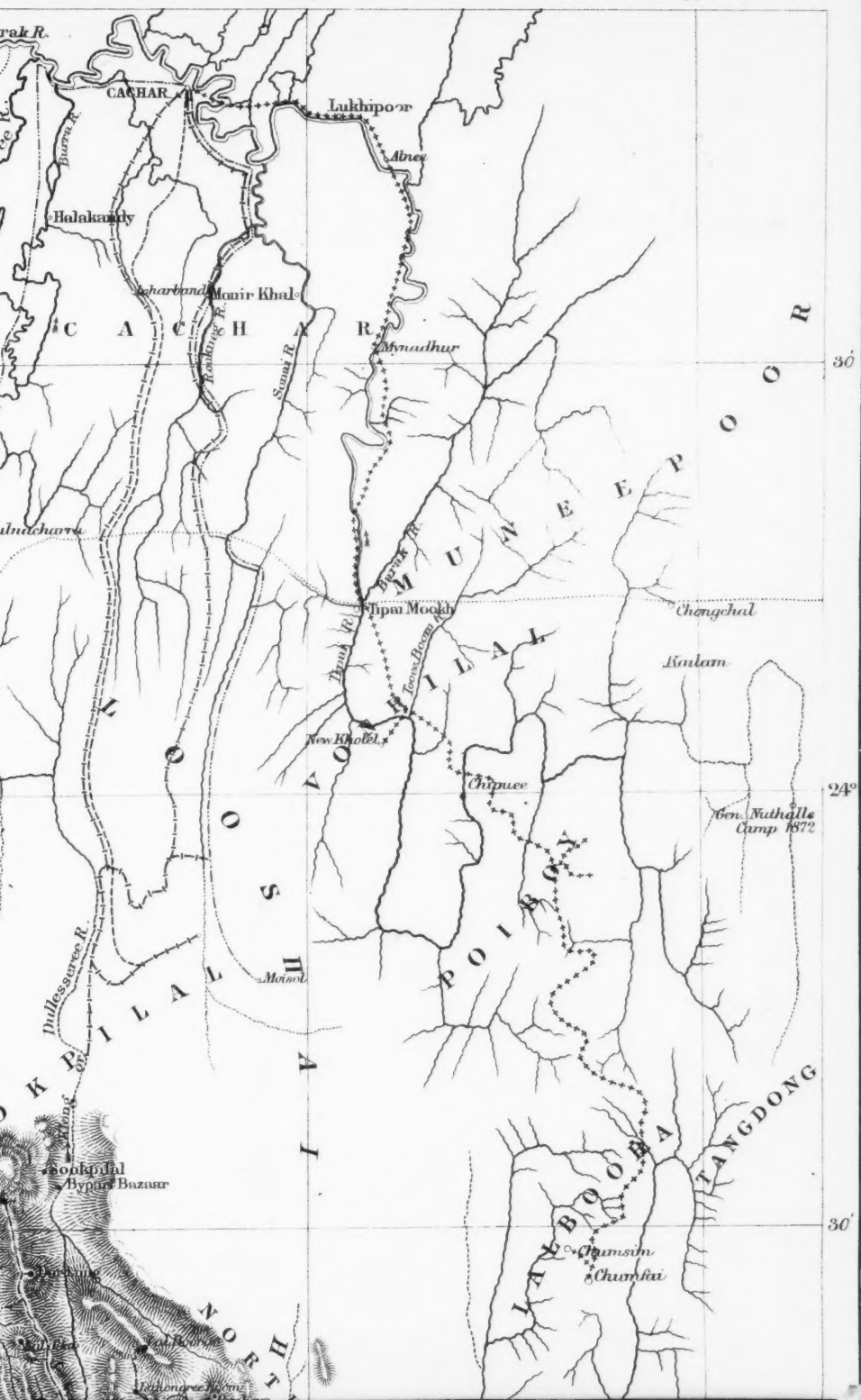
MR. STIRLING LACON: I ought to have spoken before Admiral Elliot, in answer to Captain Wells, who spoke of the danger from the chain falling on the men. Now there is no necessity to have a chain. You may have rope pennants. Then, as to the fouling of the screw, I should think the first thing the Commanding Officer would do in the event of lowering the boat would be to stop the screw. With regard to Mr. Hill's remarks, he will recollect that I stated Admiral Richards had written to me saying that it was through no fault of Mr. Hill's plan that the accident took place.

THE CHAIRMAN: I am sure we are greatly obliged to Mr. Lacon for having brought this subject forward in the very able manner he has done.

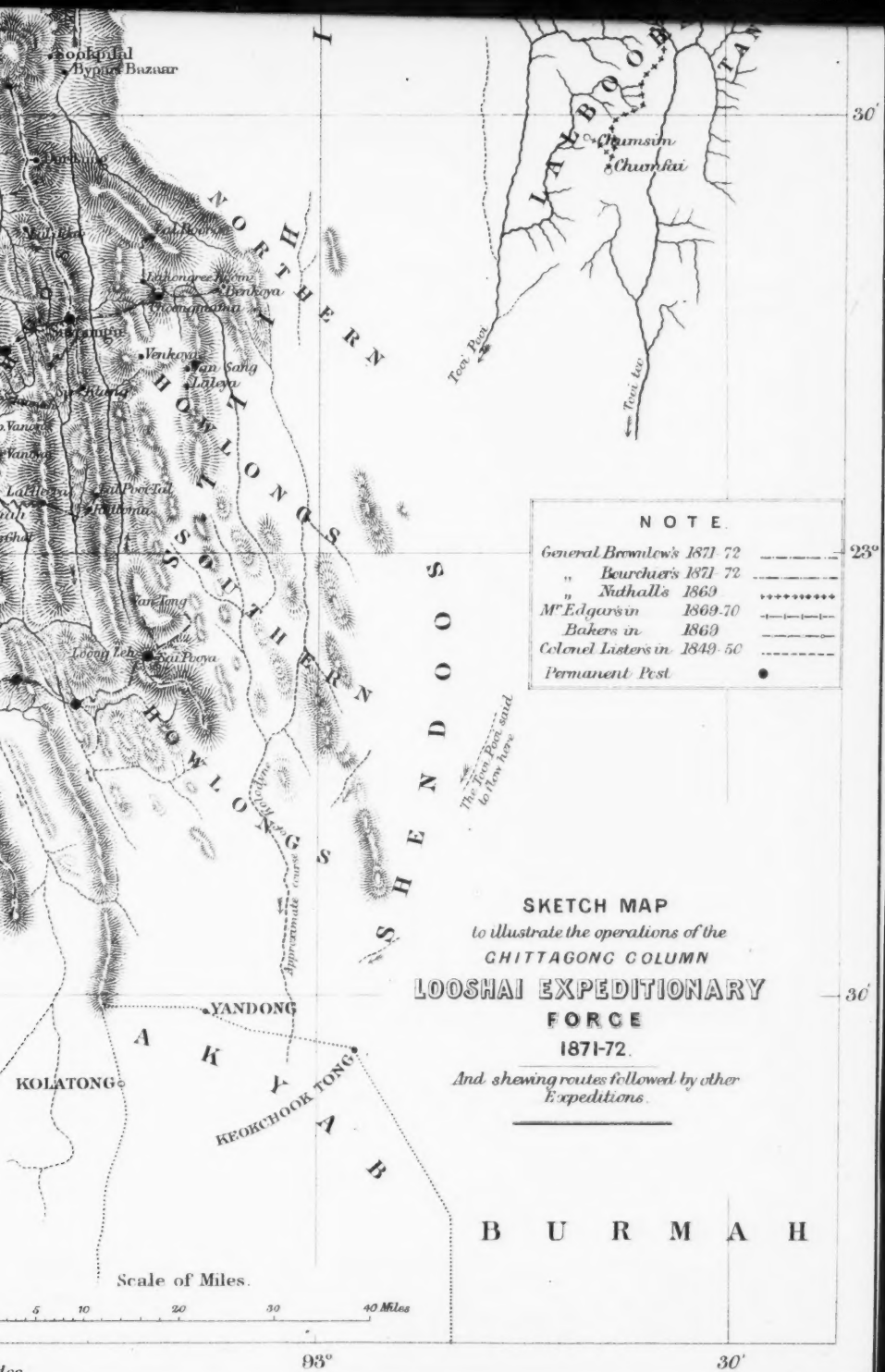


93°

30'







NOTE

General Brownlow's	1871-72	-----	
"	Bourchier's	1871-72	-----
"	Nuthall's	1869	+++++
M ^r Edgar's in	1869-70	-----	
Bakers in	1869	-----	
Colonel Lister's in	1849-50	-----	
Permanent Post		●	

SKETCH MAP to illustrate the operations of the CHITTAGONG COLUMN LOOSHAI EXPEDITIONARY FORCE 1871-72.

And shewing routes followed by other
Expeditions.

B U R M A H

LECTURE.

Friday, February 14th, 1873.

MAJOR-GENERAL J. W. ARMSTRONG, C.B., Deputy Adjutant General, in the Chair.

AN ACCOUNT OF THE PROCEEDINGS OF THE CHITTAGONG COLUMN OF THE LUSHAIE EXPEDITIONARY FORCE, 1871-1872.

By Brevet-Major C. J. EAST, 41st Regiment, Asst. Quartermaster-General, Bengal.

ON the south-eastern frontier of Bengal, lie the British districts of Cachar, Sylhet, and Chittagong, the two former separated from the latter by the nominally independent state of Hill Tipperah. The state of Munnepore, which enjoys about the same amount of independence as Hill Tipperah, joins Cachar on the east, and to the south of this district and to the east of Hill Tipperah and Chittagong, extends the country occupied by the Kookie tribes, or, as they are commonly called, the Lushaies. These tribes, and others of a similar character, occupy the mountainous country extending from our south-eastern frontier to Burmah.

Previous to last winter our knowledge of the Kookies and of the country they inhabit was most limited, and we probably learnt more about them from their unwelcome visits to us than from the almost resultless expeditions which had been attempted against them. For years past, these tribes had been in the habit of raiding into our territory, when much property was destroyed and numerous British subjects carried away into captivity.

It is necessary to give a short account of the raids made from time to time, and of the measures, both conciliatory and punitive, with which the Lushaies were treated, to show that the expedition lately undertaken was an absolute necessity, and that although the punishment we then inflicted was in some instances severe, it was not more than was necessary and deserved.

In talking of these tribes it will perhaps be more convenient to call them the Lushaies, by which name they seem to be now generally known, although in fact this term is only properly applicable to the

NOTE.—For Narrative of the Cachar Column of the Lushaie Expeditionary Force, see "Journal of the United Service Institution of India," Vol. II, page 35, *et seq.* See also "Woodthorpe's "Lushai Expedition."—ED.

royal or ruling family, from which the chiefs of the several tribes are descended, and as the chiefs can marry only Lushaies, the purity of the family is still maintained.

The Lushaies are divided into several independent tribes or communities, which occasionally undertake joint expeditions against our borders or against some other tribe, and now and then fight one with another, as the circumstances of the time may dictate. The principal of these tribes are those of Poiboy, Impanu, Vonpila, and the sons of Vanolel, Lalbourah, and Tangdong, in the north-east of the Lushaie country; of Sookpila, which occupies the country east of Hill Tipperah; of Rutton Poosa, whose territory adjoins the hill tracts of Chittagong; of the Sylhoos, one of the most warlike of all the tribes, occupying the country to the south of Sookpila, between Rutton Poosa and the Howlongs; and, finally, the northern Howlongs and the southern Howlongs, which occupy the country to the east of the Sylhoos and extend considerably to the south, being separated from Burnah by the Shendoos, another raiding tribe, which, however, is supposed to be separate and distinct from the Lushaie Kookie tribes.

It is generally supposed that the Lushaie Kookies have been gradually driven towards our frontier by tribes further east and south. The earliest account that can be traced of the Kookies takes us back to the year 1826, when they attacked and barbarously murdered a party of woodcutters from Sylhet. In 1844 they made a night attack on a village in the same district, and carried off seventy heads and six captives. A small detachment of troops then sent into the hills reduced to submission the offenders and brought in their chief Lal Chokla, who was transported for life. We next hear of them in 1849, when they burnt three British villages in Cachar, killed many of the inhabitants, and carried off a number into slavery. The consequence was, that the people occupying the country where this attack had been made, deserted it, and our border in that direction became much unsettled.

The Government of India consequently ordered an expedition against the Lushaies, in the hope that prompt punishment might prevent further raids, and Colonel Lister, the Political Agent in the Cossyah Hills, was appointed to the command. He started in January, 1850, with 6 native Officers, 29 non-commissioned Officers, and 200 sepoys, and penetrated about 80 miles in a southerly direction from Cachar, when he surprised and destroyed the village of a chief named Moollah. Finding, however, that the Lushaies were more numerous and powerful than had been supposed, he retired again into British territory. It is as well to notice here some of the information contained in Colonel Lister's report of his expedition, as this had to be taken into consideration when the strength of the columns for the late campaign was determined.

He reported that the road he traversed was through thick woods, varying only in intensity and in character from bamboos to large forest trees, and utterly uninhabited. The track was always well marked. Moollah's cantonment was on a mountain 2,500 to 3,000 feet high, and other large villages were on higher peaks, so situated probably for the sake of the salubrity as well as the safety of the positions from attack. He

described the Lushaies as a powerful tribe under six chiefs, one of whom is supreme. They all have their separate cantonments, with a number of dependent villages attached. In these cantonments the fighting men reside; in the dependent villages are located the ryots, who are merely used for tilling the soil. The fighting men, he said, consisted, firstly, of Lushaies, who appear to be a cross between the Kookies and Burmese; secondly, of a certain number of true Burmese, entertained as soldiers; and thirdly, of refugees and outlaws from Munnepore and our own frontier. The chief at the head of the tribes was said to have 300 Burmese in his service. His head-quarters, which lay south-west of Moollah's village, could be plainly seen with a telescope, and appeared to be a cantonment laid out with great regularity, and containing not less than 3,000 houses. The whole of the chiefs are said to be able to raise from 5,000 to 7,000 fighting men, part being armed with muskets and the remainder with spears. Finally, he considered that in any expedition undertaken against them a good deal of stockade-fighting might be expected, and that although their muskets and other offensive weapons were not to be dreaded, they might cause great difficulties by their expertness with the dhao, and the facilities their woods afforded both in materials and position for throwing obstacles in the way of an advance and of a retreat. He considered that a force of 3,000 troops would be necessary to subdue the Lushaies.

The sources from which Colonel Lister obtained this information were certainly not trustworthy, for nowhere in the country did the expedition of last winter find large military cantonments nor Burmese soldiers, and the fighting force of the Lushaies was below what had been represented.

The immediate results of his operations appear to have been satisfactory, for at the end of the same year the Chief Sookpilal came into Cachar on a friendly visit to the Deputy Commissioner, and a small trade afterwards began between the Lushaies and our own frontier people.

Up to 1862 our border was undisturbed, but in that year three villages near Adumpore, in Sylhet, were attacked and burnt, and the inhabitants either killed or carried off as captives. In consequence of this, negotiations were opened with Sookpilal, and he was promised a small annual money payment if he would prevent his own people and his neighbours from raiding; he was besides to pay an annual tribute to Government. Tea gardens now began to be established along the borders of Cachar and towards the Lushaie country, and this appears to have made the Kookie tribes rather uneasy. Matters remained quiet however, until the close of 1868, when some villages in Sylhet were attacked, and in January of the following year, the tea gardens of Loharbund and Moneirkhal, in Cachar, were assailed.

An expedition, under General Nuthall, was then sent into the Lushaie country, but it started at too late a season to be able to effect anything. It advanced in three columns, two of which penetrated some distance into the country, but they had to retrace their steps before the inhabited parts were reached. Their march was entirely unopposed.

From December, 1869, to March, 1870, the Deputy Commissioner of

Cachar, with a small police escort, traversed a great part of the northern and western Lushaie country, made friends with the representatives of many chiefs, had a satisfactory interview with Sookpilal, and was not in any way interfered with or molested by the inhabitants.

Before noticing the raids made on Sylhet and Cachar during the winter of 1870-71, which were on a more extensive scale than any previously undertaken by the Lushaies, and were the immediate cause of the expedition of last winter, it will be as well to give in a few words the history of our dealings up to this time with the Lushaies on the Chittagong side.

In January, 1860, an inroad was made into Hill Tipperah by some 400 or 500 Kookies, when several villages were burnt and many inhabitants slaughtered. Following the course of the Fenny River, this band of raiders entered British Tipperah at Chagulneyah, burnt 15 villages, slaughtered 185 of the inhabitants, and carried off 100 captives. After staying a day or two in the plains they hurried off to their hills, so that although troops and police were sent after them, they retired without being in any way punished. These raiders were believed to belong to Rutton Pooea's clan. In January, 1861, a strong force of police under Captain Raban, proceeded against Rutton Pooea's village. On their approach, the Kookies set fire to the village and fled into their woods. After doing what damage was possible in the immediate neighbourhood, the police retired to British territory without having been able to inflict any severe punishment on Rutton Pooea's people. Captain Raban had found the country extremely difficult, and had to send back the elephants with which he started, it being impossible to take them on. The result of his expedition however was, that in the following September Rutton Pooea came in to the British frontier Officer and made his submission. Through him communications were opened with the Syloos and Howlongs, of whom we then knew nothing.

Our relations with these two tribes, although by no means intimate, have since that time remained on a more or less satisfactory footing, and although they have raided on other parts of our frontier, they have made no attempts whatever against the district of Chittagong. It is said they became so friendly in their interviews with our civil Officer at Kassalong, that one of their chiefs actually proposed that he should join them in making a raid against Cachar!

In the winter of 1870-71, Major Graham the Civil Officer, and Major Macdonald of the Survey, proceeded with a small police escort on a friendly mission to the Syloo country. They had interviews with a few chiefs and with some head men of villages, but they were positively forbidden by the Syloos to proceed beyond the first village reached, and they had therefore to retire again, having been able to penetrate some six or seven miles only into the country.

To return to the Cachar side. In January and February, 1871, whilst Mr. Edgar the Deputy-Commissioner of Cachar was travelling in Sookpilal's country, the most serious raids which had yet taken place, occurred. Several tea gardens and villages in Sylhet and Cachar were attacked, when much property was destroyed and considerable plunder

carried off. Many coolies were killed, Mr. Winchester a tea-grower was murdered at Alexanderpore, and his little girl taken away, with many other captives. Extensive raids were also made on villages in Hill Tipperah and Munnepore. The attacks made on this occasion were bolder than any which had preceded; the Lushaies did not hurriedly retreat as had been their habit, but they stayed for three or four days in the neighbourhood of the tea gardens, and if their first attack failed they would renew it on the following day. Their force was not accurately known, but it is supposed they had not less than 800 fighting men. It was too late in the season to attempt to punish the raiders, and it was impossible to do more than to push forward troops and police to the frontier posts so as to guard more securely against further attacks. Great anxiety was felt for Mr. Edgar's safety, and two or three small detachments of troops were sent out to meet him. Sook-pilal fortunately remained friendly, supplied Mr. Edgar with food, and the latter with the assistance of one of the detachments which had arrived close to him, was enabled to return in safety to British territory without encountering any of the raiders.

Very careful inquiries were instituted as to the tribes to which the raiders belonged, and it was ascertained with tolerable certainty that the Howlongs, Syloos, and the North Eastern Lushaies, under Lal-bourah, had joined together to attack us, and that they had afterwards divided between them, the plunder and the captives.

Various reasons have been ascribed to the Lushaies as inducing them to make these raids on our border. Some people say, they are undertaken when a chief dies, in order to secure a certain number of heads to bury with his body, for according to the Lushaie belief, the number of slaves the chief will have in the next world, depends on the number of heads that are interred with him; according to others the gradual extension of tea gardens is distasteful to the Lushaies, and they have determined to do all in their power to drive out the planters. But it hardly appears necessary to seek for other causes than those which generally actuate wild border tribes, which for the sake of plunder and from the love of war-like excitement, make incursions into their neighbours' territory. The Lushaies were found to be a happy, easy-going people, not over-fond of hard labour and consequently putting a high value on slaves, whom they employed as hewers of wood and carriers of water; slaves also were used as articles of barter, and were exchanged with the adjacent tribe of Pois for guns, as many as five women being often given for one musket.

However, be the reasons what they may, which induced the Lushaies to raid, it had become very evident that these constantly-recurring incursions of theirs into British territory must be stopped, and it having been found impossible to do so by means of peaceful overtures or conciliatory measures, the Government of India had of necessity to order an expedition into their country, and in order that its results might be permanent, it was advisable that it should be on a more extensive scale than those which had already taken place.

The object of the expedition was not to be entirely punitive. The force was to occupy and explore as much of the Lushaie country as

possible, and if its advance was opposed, the neighbouring villages were to be attacked and burnt: in cases where it could be ascertained that particular chiefs or villages had been concerned in raids, the offenders were to be fined, and every effort was to be made to release the captives. It was to be explained to the natives that they were completely in our power; endeavours were to be made to establish permanently friendly relations, to induce them to receive occasionally our agents in their villages, and to allow British subjects free access to their country. Further, opportunity was to be taken of showing them the advantages of establishing a regular trade with the people on our frontier.

Government decided that the expedition should consist of two columns, one to start from Cachar, and the other from Chittagong; that operations should commence by the 15th November or 1st December at latest, and be brought to a close by the 10th March. Between these dates the climate was believed to be tolerably healthy; at other times, not only must great sickness have been experienced, but the country would have been impracticable, owing to the long-continuing and heavy rains and the consequent flooding of the rivers. The forces of the Rajahs of Munnepore and Tipperah were to co-operate with the British troops, the former acting with the Cachar column and the latter with the force from Chittagong, whilst to the north, the friendly services of Sookpila were to be brought into requisition as much as possible, and on the south, the Chief Rutton Poosa was to be engaged to give us all the assistance in his power.

The strength of the columns and the particular regiments to be selected naturally rested with the Commander-in-Chief, Lord Napier of Magdala. To determine the strength and composition of the force, it was necessary to consider the objects to be achieved; the nature of the country; the distance to which it was to be penetrated; the time the expedition was to last; and the amount of opposition which might be expected. The objects of the expedition and the time of its duration have already been stated, and it was evident that they would necessitate a long line of advance into a hostile country on which depôts and posts would have to be established and occupied by small detachments of troops. It might therefore be calculated, that about one-third of the force would be available for active operations at the most advanced point, after allowing for garrisons of posts, and for sick.

As already stated, our knowledge of the country between the Chittagong hill tracts and Cachar was extremely imperfect. The river Kurnafoolie was known to be navigable up to the Lushaie hill-ranges occupied by Rutton Poosa. These ranges, about 2,000 feet high, run from north to south, and beyond them to the east many parallel ranges had been seen, rising to 4,000 and 5,000 feet above sea-level, and increasing in height towards the north, where it was supposed they joined the water-shed, which separates the rivers running to the sea from those flowing towards Cachar. Some 30 or 40 miles north of this watershed, is the country of Sookpila, and between his northern boundary and Cachar, is an extensive tract some 30 miles

across, of low swampy valleys running north and south, separated by small ranges, and the whole uninhabited.

The Lushaie valleys were known to be uninhabited, uncultivated, and covered thickly with forest, their villages and cultivated ground being on the high ranges, access to which was by narrow and difficult paths. It was advisable therefore, that troops accustomed to mountain work and who could do good service in opening out roads through a forest-clad country, should be employed. As probably a most limited amount of baggage only could be taken, and as it was believed that no food-resources of any value would be found available, occasional privation and hardship were to be expected, and therefore it would be necessary to employ soldiers with good stamina, like the Punjabees and Goorkhas, who it was known could better stand hard work for a limited time in a hot and very moist climate, than Bengalees or men of the north-west.

As regards the opposition to be expected, we have already seen what Colonel Lister wrote, and how he was of opinion that many stockades would have to be attacked; and Mr. Edgar, the Deputy Commissioner of Cachar, whose recent experience was probably more extensive than that of any other frontier Officer, considered that in any expedition sent against the Lushaies a strong force would be necessary, and that it should be thoroughly organized and equipped.

It would appear that the recommendation in Colonel Lister's report was accepted for the total infantry force, for the two columns consisted of 3,000 men, to which was added for each column one company of sappers and half a battery of mountain artillery. The exact detail of the troops, with each column, is as given below:—

Cachar Column.

Brigadier-General Bouchier, C.B., 1 Assist.-Quartermaster-General, 1 Brigade Major, 1 Aide-de-Camp.

Half Peshawur mountain battery with 2 150-lb. steel guns, and 2 $5\frac{1}{2}$ " mortars, 37 gunners, and 35 infantry soldiers attached, trained to work guns.

One company of sappers, with equipment, 100 men.

22nd Punjab Native Infantry	500 picked men
42nd Punjab Native Infantry	500 "
44th Punjab Native Infantry	500 "

Chittagong Column.

Brigadier-General Brownlow, C.B. and A.D.C., 1 Assist.-Quartermaster-General, 1 Brigade Major, 1 Aide-de-Camp.

Half Peshawur mountain battery, similarly equipped.

One company of sappers, with equipment, 100 men.

2nd Goorkhas	500 picked men
4th Goorkhas	500 "
27th Punjab Infantry	500 "

The guns, mortars, and artillery equipment to be carried on elephants.

To each General a Political Officer was attached. These two Officers, Mr. Edgar and Captain Lewin, both of whom had great experience on the frontier, were to advise the Generals on all questions which might arise with the native Chiefs; supreme political authority, however, was invested in the Generals, who were to be held responsible for both political and military proceedings.

The Rajah of Munnepore kept some 2,000 men in the field, but owing to the difficulties of communication between his troops and General Bouchier, their effective co-operation with the Cachar column was hardly to be expected. From the advanced position they took up, they rendered very important service in enabling numerous Munnepore and British captives to escape to them from the Lushaie country, and they must also have afforded considerable security to the left flank of General Bouchier's line of advance. General Nutball accompanied the Munnepore contingent in a political capacity. The troops of the Tipperah Rajah were, on General Brownlow's recommendation, detailed to hold certain posts on the Tipperah frontier. To each column there was attached a force of military police, to be employed on such duties as the Generals might consider most advisable.

The equipment, commissariat arrangements, and carriage for the whole of the troops were much the same. The operations of the two columns were however entirely distinct, and although it was intended originally that they should effect a junction, this was not done, owing to reasons which will be noticed hereafter.

This account will now be confined exclusively to the proceedings of the Chittagong column, with the exception of showing generally the line of advance followed by General Bouchier.

The following scales of equipment, regimental carriage, and establishments were ordered:—

Equipment.

Each soldier to carry	lbs.	ozs.
Great coat	7	0
Waterproof sheet, 7' × 4', to be worn in a roll over the shoulder with great coat	4	0
Arms and accoutrements	16	0
60 rounds ammunition in pouch	5	7
Two days' rations, say	5	0
Sundries	4	9
Total	42	0

To the troops not already possessing them, kookries were issued and boots, and bandages to bind round the lower part of the leg as a protection against leech-bites were also supplied.

Carriage.

Carriage to be provided by Government to the following extent:—

	lbs.
General Officer Commanding	80
Each Staff Officer and Commanding Officer of regi- ment, extra for Office	40
British Officers	40
Native Officers	20
Troops	12
Followers	nil
Cooking utensils, per regiment	160
Ditto per separate company, when detached	40
Hospital stores	80

Establishments.

Private servants and chargers :—

British Officer, each.....	1 servant.
" " 	1 pony and 1 syce.
" " 	1 grass-cutter for every 2 ponies.
Native Officers.....	1 servant between 2 Officers.

Regimental followers—Three per separate company, or 24 per regiment, and to provide for bheesties, cooks, sweepers, cobblers, &c.

One dandy for carrying sick or wounded for each company.

The kookrie was a most indispensable article of equipment. Men soon learn to use it fairly, but a Goorkha, whose national weapon it is, wields it with wonderful skill. Bamboos as thick as a man's arm can be cut through with one stroke, and these, by means of the kookrie, can be fashioned into water vessels, drinking cups, matting, bedsteads, chairs, and, in fact, almost anything. The bandages as a protection against leech-bites did not prove of great service, as the men generally preferred marching with bare legs. The scale of carriage laid down for Officers and men proved generally sufficient, with the exception that for the former there was very great difficulty in carrying cooking utensils sufficient, within the prescribed limit of 40 lbs. Of the ponies allowed to Officers I may here mention that three only, with much trouble, reached the front, and that it was impossible to ride them until we commenced our return march, when roads had been made.

Ammunition and Entrenching Tools.

Each half battery was supplied with 118 rounds per gun and 104 per mortar, and 100 rounds per gun and mortar were placed in reserve at Chittagong. Fifty Hales' rockets, with two troughs for firing them, and 50 blue lights were ordered for each half battery; the rockets, however, had to be obtained from England, and did not arrive until rather late.

The service ammunition of the infantry consisted of 200 rounds per man, distributed as follows:—

60 rounds in pouch.

40 rounds, 1st regimental reserve, in leather cartouches placed in

bullock boxes, two cartouches in each box. The filled cartouche weighs 37 lbs.

100 rounds, 2nd regimental reserve, in bullock boxes without cartouches. Each bullock box contained 800 rounds, and weighed when full 93 lbs., and was provided with a rope and bamboo for carriage by two men.

In addition to the above, 100 rounds of small-arm ammunition per man, packed in camel boxes, was placed in reserve at Chittagong. The whole of the infantry was armed with Enfield rifles; the Sapper company had smooth bores.

The Sappers took with them their own company equipment of engineering tools and stores, and in addition to these the Ordnance Department furnished—

500 mamooties, a sort of native shovel.
100 pickaxes.
200 felling axes.
200 hatchets.
25 crowbars.

A few native blacksmiths, with forge for the repair of tools, were also sent.

Rations.

The daily ration of food for troops, followers, and coolies was—

	lbs.	ozs.
Atta, flour, or rice	2	0
Dal—a pulse.....	0	4
Ghee—clarified butter.....	0	2
Salt	0	0 $\frac{3}{4}$

Rum was issued when possible, and to non-rum-drinkers an occasional allowance of tea and sugar was given.

The Officers' ration, supplied by the Commissariat Department, was—

	lbs.	ozs.
Biscuit	1	0
Meat—Australian or salt	1	0
Rice	0	4
Sugar	0	2 $\frac{1}{2}$
Tea	0	0 $\frac{3}{4}$
Butter	0	1
Salt	0	1
Flour.....	0	6
Rum, low proof	0	2 drams.

A very occasional issue of potatoes or of preserved carrots was also made.

Owing to the excessive moisture of the climate, the flour and atta had to be packed in waterproof bags to prevent its becoming mouldy, and the whole of the packages of the Commissariat were arranged so as not to weigh more than 40 lbs., the weight which it had been decided

coolies were to carry. A 9-gallon cask of rum formed a load for two coolies, and owing to there being at first a deficiency of these small casks, it was impossible to get rum up to the front for some considerable time.

The carriage to be employed consisted of coolies or porters and elephants. It was considered unadvisable to use mules for many reasons, the principal being the difficulties of the paths, the probable scarcity of water, the deficiency of encamping ground, and the long distance, viz., from the Punjab, they would have to be brought. The original orders directed 2,000 coolies to be entertained, of which 600 were to carry Officers' and men's kits and ammunition, and the remaining 1,200, commissariat supplies; it will be seen that this number had to be increased. With the exception of 300 Nepaulese engaged by the Civil Authorities, all the coolies were collected by the Commissariat Department in the Punjab and North-Western Provinces and forwarded to Calcutta by rail. There, under the orders of the Commandant of the cooly corps and the two British Officers appointed to assist him, they were formed into divisions of 100 men, each division having one sirdar or head man, and four mates who were placed in charge of sections of 25. To maintain something like discipline amongst them, some half-dozen non-commissioned Officers of native regiments at Calcutta were attached to the corps. Each cooly was provided with a blanket, a pair of shoes, leg-bandages, and a dhao, which is a sort of large hatchet-knife, and can be used either as a defensive weapon or for cutting down trees and brushwood; a waterproof sheet was also supplied to every four coolies.

One hundred elephants eventually increased to one hundred and seventeen were forwarded to Chittagong, but these could not be employed until roads had been opened out.

A survey party consisting of four Officers and a native establishment of thirty-two men, was attached to the column.

The construction of a telegraph line was ordered from Chittagong to Demagree, where the most advanced depôt was to be placed, a distance of about 125 miles, and 50 miles of wire were to be taken to form a flying line if necessary, on the advance of the column into the enemy's country.

On arrival of the troops in Calcutta they were placed on board river steamers and flats, and despatched *via* the Sunderbunds to Chittagong. The six hours at sea this voyage necessitated, could fortunately at that season of the year be undertaken without fear of rough weather. It took eight days by this route to reach Chittagong, and unfortunately the result of travelling through the unhealthy Sunderbunds was that in every detachment of troops one or two cases of cholera occurred, either on the passage or immediately after arrival; happily however the disease did not spread. The first troops to reach Chittagong were the 2nd Goorkhas and Sapper Company, which arrived on the 5th November, the 27th N.I. and half battery landed on the 21st November, and the 4th Goorkhas on the 25th November. The coolies were despatched in batches of about 400 from Calcutta by sea, the voyage taking three days. The first detachment reached Chittagong on the

7th October, and they continued to arrive until the 7th December, a supplementary detachment of some 200 and odd landing on the 15th January.

On the 28th October, the General and remainder of his staff arrived, the Assistant Quartermaster-General and Principal Commissariat Officer having been sent down early in October to collect as much information as possible and to make all preliminary arrangements. The General had been ordered to commence his advance from the advanced depôt to be established at Demagree on the 1st December. The base of operations was to be established at Chittagong, and steps were at once taken to secure the necessary buildings for a depôt hospital, to which all seriously sick troops and coolies could be despatched from the front: proper shelter had to be obtained for the reserve ammunition and stores and for the camp equipage of the troops, which under orders from the Commander-in-Chief was not to be taken beyond that place.

The General's attention was first given to the security of the country which he would leave behind him on either flank of his line of advance. Hill Tipperah had suffered much from Lushaie raids during the preceding winter, and considerable outlying districts had in consequence been abandoned by the inhabitants. In communication with the political agent at Hill Tipperah, it was determined to establish five police posts, extending from Kailashur to Oodehpore, and to build a stockade for 100 men at Choupphoo, whence constant patrols would be sent to Sabong Mabrong, the part of the frontier most likely to be invaded, and also to Khagorea, the police post on the General's extreme left. The Tipperah Rajah's troops were poorly armed and disciplined, and the most to be expected of them was that they would make a successful defence if attacked.

A force of three British Officers and about 400 men of the military police battalion were placed at the General's disposal. With part of these he determined to re-occupy certain posts which had been held in previous cold seasons along our frontier to the south of the Kurnafoolie River, and to establish others, as it was thought probable that the raiding tribe of the Shendoos, who are our neighbours on this side, might take advantage of our being occupied with the Syloos and Howlongs to make invasions into our territory, and which indeed they attempted to do, but without success. A British Officer and 130 men were to accompany the troops of the expedition, and 50 were to occupy the stockade at Khagoreea. The distribution of the police was as follows, and the posts they occupied are marked on the map:—

Khagoreea.....	50
Belasurree.....	50
Phurwar	40
Pindoo	50
Thursa	30
Chima	60
With advance	130

It is necessary to give now a short description of the River Kurnafoolie, as far as Upper Burkul; of the posts which were established on it; and of the means at the General's disposal for moving troops up the river. The town of Chittagong on the right bank is about 15 miles from the sea, and so far steamers of 2,000 tons can proceed. From Chittagong to Chandragoona, a distance of 27 miles, the river continues a fine wide stream, but in places at low tide with a depth of only 6 feet, and flows through a flat, well-cultivated country inhabited principally by Bengalees. Above Chandragoona, the hilly country of the Chukmas a tribe having much resemblance to the Burmese, is traversed, and for 34 miles up to the station of Rangamattea the river is navigable by flat-bottomed river steamers and flats. Just below Rangamattea a bar existed, which when the river fell would prevent steamers reaching the station, and a dredge which had been sent down from Calcutta for the purpose, was put to work upon it. Rangamattea was the head-quarters of the Frontier Police Battalion and the station of the Deputy-Commissioner, and with the exception of a small police post at Kassalong, had been hitherto the most advanced British position in this direction. As it was impossible for river steamers to proceed beyond this place, all troops and coolies had to be landed here, and for their shelter the civil authorities had prepared rough huts of bamboo, with the floors well raised off the ground; these huts would hold easily 500 men. A small commissariat dépôt was also established here. The General had two river steamers at his disposal, the "Koel" which would carry 280 men, and the "India" which would take 150; and in order to increase the means of transport several large country boats were roughly decked for the accommodation of troops, and four or six of these, each holding 25 men, were towed up by each steamer. The voyage from Chittagong to Rangamattea and back again generally occupied three days.

From Rangamattea to Kassalong, 17 miles, the depth of water was nowhere less than 2 feet 6 inches, and on this part of the river it was possible to use the large-sized country boats; but from the latter place to Lower Burkul, 12 miles, no boats drawing more than 18 inches could pass. Above Rangamattea the river narrowed much in places, and occasionally flowed through picturesque, rocky cliffs with a very strong current. With the exception of occasional patches cleared for cultivation, the banks were formed by most thickly-wooded hills, rising however to no very great height, with here and there a pretty Chukma village showing through the trees, the houses all being built of bamboo and with their floors raised on poles some 8 or 10 feet above the ground. A small steamer called the "Flame," of 14-horse power and drawing only 18 inches, had been sent from Calcutta for work on the upper part of the river, and she was placed between Rangamattea and Kassalong. At first she was used to tow large country boats, but later two flats for her arrived, and these could each carry 100 men and a large amount of commissariat supplies. The small boats or canoes called also dugouts, employed between Rangamattea and Burkul, would carry on an average 7 armed men, 10 coolies, or 20 cwt. of stores; they were furnished with light-arched coverings made of matting. Some

300 of these boats had been collected for the purposes of the expedition, and the monthly hire which had to be paid for them formed no small item of the total expenses incurred.

At Kassalong there was a considerable extent of level ground, sufficient to encamp at least two native regiments, and it possessed a small bazaar, which had been some time established with a view of opening a trade with the Lushaies. There was a police stockade; it was our most advanced post in this direction; the limit of our steamer communication up the river; and was known to be tolerably healthy. It was therefore determined to establish a *dépôt* here. Hospital sheds capable of holding 150 sick, two large commissariat buildings, and rough huts to shelter about 700 men, were accordingly put in hand. These works were carried out by hill coolies, collected much against their will by the civil authorities. The neighbouring country fortunately abounded in bamboos; and it may be as well to explain how this most useful of forest trees is used for the floors, sides, and roof of a house. The female bamboo is hollow. A branch of sufficient size being selected, it is cut completely through at one part of the circumference down the whole length, whilst at other parts it is only cut half through in innumerable longitudinal slits. It is then opened out flat and thus forms a sort of flexible plank from 9" to 12" wide according to the size of the bamboo, and of course of the same length as the branch. These long broad slips are interlaced so as to form a sort of matting, which being made according to the size required, is lifted bodily into its place on the roof or the wall, or wherever it may be. Each regiment was to have a small store *dépôt* at Kassalong, to contain the 2nd regimental reserve of small arm ammunition (which reserve was never required further to the front), and all articles of clothing, &c., which the troops had brought with them in excess of what was to be taken into the field. A reserve of boots and blankets was also formed, to be drawn on as required by the troops in front.

As it was possible the Howlongs might get round the right flank of the column and attempt an attack against this place, it was determined to leave here a garrison of one company with a British Officer in command. A road of about 8 miles in length had been opened out between Kassalong and Lower Burkul by the civil authorities. As it was impossible that all the troops could travel between these two places by river, owing to the greater number of the boats being required for the conveyance of commissariat supplies, a part of the force which proceeded by land had here an opportunity of forming some idea of what marching in the Lushaie country would be like.

To begin with, the natives on our frontier consider the course of a mountain stream an excellent road, and so long as the pools of water it contains are not more than three feet in depth, they do not think it requires in any way to be improved; in the next place, in crossing a hill range, the path is taken straight up one side and straight down the other, and the clay soil, kept in a state of moisture by the heavy dews, is so slippery, that to accomplish the descent of one of these hill-paths in safety it is often necessary to hold on by the trees alongside. This bit of road, with its constant ascents and descents, and the 2½

miles in continuation to Upper Burkul, proved a trying march to begin with, both for troops and coolies.

From Lower to Upper Burkul, a distance of $2\frac{1}{2}$ miles, there are a succession of falls and rapids which render this part of the river unnavigable; and it was only with very great labour that some twenty of the smallest dugouts could be dragged up through the shallow water at the side of the river. The still smaller canoes which had principally to be used above Upper Burkul, could be dragged up with less difficulty, although to get some 300 of these passed up occupied considerable time. This proved the first break in our line of water communication. It was necessary to build sheds at Lower and Upper Burkul for the storage of commissariat supplies, and to place a small detachment of troops at each place. The first coolies that arrived had been put to work on the path between these two places to make it passable for laden elephants, and this was found to be a troublesome bit of road-making owing to the many watercourses across which the path had to be taken.

On the 8th November a party of 110 police, under a British Officer, had started by march from Upper Burkul to Demagree to clear ground there, and to commence work on the stockade which had been ordered. Demagree is in the country of our Lushaie ally, the Chief, Rutton Pooea, but the guides he furnished to the police either could not or would not show the way, and consequently they had to make a much longer march of it than necessary. The General with the 2nd Goorkha Regiment, left Chittagong on the 7th November, and on the 12th he arrived at Upper Burkul with the head-quarters and two companies of the regiment. Huts had been prepared for about 400 men, and the troops and coolies occupied these until arrangements for their further advance could be made. On the morning of the 13th, Rutton Pooea came in and had an interview with the General. He seemed rather anxious about the consequences to himself after we left the country, if he took part with us against the Syloos, as theirs being the stronger tribe, they would naturally retaliate when we were no longer there to assist him. He was however satisfied, on being assured that if he rendered us good service, he would not be deserted. He then made a demand for arms and ammunition, and said he would lead a war party at once against the common enemy. His demand had to be met evasively, and it was with some little difficulty he was made to understand that he would only be allowed to undertake military expeditions with the General's sanction, and that just now it was not considered advisable he should commence operations. We shall see further on that the military prowess of his tribe did not at any time prove of great advantage to us. He stated that the Syloos and Howlongs had had spies watching our collection of supplies, making of roads, &c., and that the tribes had come to the conclusion we should never get so far as their villages, but if we did, they intended to fight to the last. He warned us that we might be attacked on our right flank, on our advance to Demagree, by Howlongs. Rutton Pooea and his few attendants being the first Lushaies we had seen, were naturally observed with much interest, and their fondness for rum and the

amount they could drink without being in the least affected, were matters of considerable astonishment. In fact they had to be put on a limited allowance, both for their own sakes and because as yet we had not been able to get many casks of spirits so far up country. The Chief himself was but little better dressed than his followers; his appearance was not prepossessing; he had a crafty eye, and his stolid, immoveable, and somewhat heavy features, gave but little indication of the thoughts passing through his mind. The General hoped however he would prove a useful ally, and looked to him to furnish us with guides and information, and also as a possible go-between in our communications with the enemy. There had been great difficulty in procuring interpreters, but Captain Lewin the Political Officer, had collected all that were available, and these consisted of five men. The interpreters specially provided for the General consisted of two men, one of whom translated the Lushaie language into Bengalee, and the other interpreted the Bengalee into bad Hindostani; it may be imagined therefore, that it was no very easy matter to carry on a conversation with a Lushaie through such a medium.

An exploration for some few miles of the line of country which would have to be followed in an advance on Demagree, made it evident that to open out a road to that place for laden elephants, would require more time and labour than could be devoted to it, and it was therefore decided, to make simply a path which could be traversed by troops and by unladen elephants, and to keep to the river for the line of communication for supplies. The company of Sappers which reached Upper Burkul on the 14th, two companies of Goorkhas, and some 400 coolies, were put to work on the path to Demagree, which was marked out by the first detachment of troops which proceeded to that place, an account of whose march will be given presently.

The canoes used on the river above Upper Burkul, consisted of small cranky boats, in which it was necessary to sit quite still to prevent their upsetting. Attempts were made to form them into rafts, by fastening two together with a platform, but it was found impossible, when thus connected, to get them through the rapids, and it was therefore necessary to use them singly. Actual experiment showed that, besides the two hill men who managed the canoe, each would take on an average, four armed men, or 5 cwt. of commissariat stores. On the 16th, the General, the Political Officer and one company of Goorkhas, started by boat from Upper Burkul, taking with them 50 canoes laden with supplies. The first day, during which many small and not difficult rapids were encountered, Ootun Chuttra was reached. At this place the rapids were difficult and of considerable extent, and only small canoes could be passed over them. It was therefore determined to use the dugouts, and also a certain number of canoes so far only, and to establish there a depôt with stockade and small garrison. Subsequently, when more coolies became available a path was made, and a portorage established alongside these rapids. The second day, the fleet of canoes reached Demagree, the only difficulty experienced being some rapids just below that place, through which subsequently the Sappers made an easy passage.

The same day that the General left Burkul, a detachment of two companies of the 2nd Goorkhas, with 250 coolies, of whom 175 carried rations, and the remainder working tools and baggage, accompanied by Rutton Pooea and his followers as guides, commenced their march towards Demagree. The distance between these two places is probably 35 miles, and to accomplish this, although working hard from daylight until seven or eight at night, it took the detachment five days. The five marches then made were afterwards divided into four. One considerable river and three mountain ranges had to be crossed, and the latter, although not exceeding 2,000 feet in height, were steep and difficult. For more than half the distance the track led along the beds of small rivers, with the water often more than knee-deep, and this proved the pleasantest part of the march. The river-bed was generally of fine gravel or sand; at some places however, it consisted of soft black mud, whilst at others, the troops and coolies had to struggle as best they could over large slippery boulders. When the river-courses were left, it was to take some short cut across a steep hill or to ascend a mountain range, the clay slopes of which, moistened by the dew, and still further wetted by the feet of the troops as they left the rivers, proved so difficult for the coolies, that regular steps had to be cut on them. The dew was so heavy, that at night after condensing on the trees above, it pattered down on the roofs of our small sheds like rain, and as the sun can rarely penetrate through the dense foliage of large forest trees, bamboos, and underwood, the ground remains in a constant state of moisture. The river crossed is called the Thega, and is a tributary of the Kurnafoolie. It has a width of from 35 to 40 yards, and a suspension bridge 50 yards in length and 40 feet above the water, constructed entirely of long creepers and bamboos, had been thrown across it by the Lushaies. We learnt that this structure has to be rebuilt every year, but that this year it had not been done. As the creepers appeared exceedingly dry and brittle, it was considered advisable not to send laden coolies over it. After searching for some time, a ford not exceeding 2 feet 6 inches in depth was found, and marked off with long stakes. Fortunately where the ford existed, there was a firm sandy bottom, and consequently all that was required to render the passage practicable for elephants was to make paths down the steep banks of the river to the water's edge.

One day's march was much like another, and may be described briefly as follows:—At daybreak the men lit fires and cooked a meal, and as soon as this was eaten the march commenced, and having been warned that we might be attacked on the road it had to be conducted with all military precautions. An advanced guard of about 30 men, accompanied by 40 or 50 coolies with axes, picks, and shovels, started an hour before the rest and cleared away trees which had fallen across the path, improved ascents and descents, which were particularly difficult, and closed with branches of trees all paths to the right or left which would have led the main body off the direct road. It was found utterly impossible to send out flanking parties; although tried on one or two occasions, it was with the invariable result of the flankers being lost in the dense woods through

which we marched, and our having to delay whilst men were sent out to find them. It was often impossible to see for twenty yards on either side, and the march had therefore to be made in single file, with a strong rear-guard to bring up straggling coolies. Between two and three in the afternoon, the advance halted on the most suitable ground that could be found near water, and troops and coolies, as they came up, were set to work to cut away small trees and underwood. As soon as sufficient room for the huts and an open space round the encampment had been cleared, materials for building were collected. The sheds for the men consisted of a long sloping roof, covered with bamboo leaves, or other convenient foliage, with one side resting on the ground and the other on supports about 5 feet high. A layer of bamboo leaves, with a waterproof sheet spread on the top, proved an excellent bed. Some half-dozen Chukma coolies, who were clever at this sort of rough building, were sent with the detachment to show our men the best way to set to work, and soon taught them how to fasten the different parts of their sheds together with a sort of very flexible withy made from the bamboo. Four of these Chukma coolies could build a very comfortable hut to hold the three Officers with the detachment, in half-an-hour. The coolie sheds were generally placed in the centre, and those of the troops outside; pickets were posted as soon as sufficient space had been cleared, and the ground in front of them was covered with a rough abattis formed with the timber which had been cut down. In a short time the troops became very handy at hutting themselves, and it was wonderful to see, in the space of three hours a large extent of ground covered with trees of all sizes and thick underwood, converted into a broad open space, on which long lines of sheds were to be seen, with the men scattered about cooking their evening meal. It was sometimes late at night before the rear-guard arrived, and then owing to the exceeding darkness, it was necessary to distribute torches along the line of march. As the wood was all too damp to burn with a bright flame, these were made by wrapping pieces of cotton cloth round the end of a stick, and covering the cloth with ghee from the supply which had been provided for the men's rations. Leeches were here very troublesome, and perhaps every half-hour it would be necessary to pick three or four off one's legs. Not only did they attack our legs and feet, but in some extraordinary way they used to be found up one's sleeves, or on one's back; how they managed to get there remained an unsolved mystery. On the last day of the march the detachment ascended the Oheepoom range, and marched through Rutton Pooca's chief village, which was the first that had been met with since leaving Burkul. It contained about 150 houses, abounded in pigs, fowls, and dogs, and was tolerably clean. From the summit of the mountain on which it is situated, an extensive view of the Lushaie country was obtained. Range after range of densely-wooded hills stretched away into the far distance; here and there perched on high and apparently inaccessible hill tops, were to be seen the villages of the two tribes we had come to punish, whilst on the slopes below them lay patches of joom land, covered with ripe yellow crops.

The system of cultivation pursued by the Lushaies is called

jooming, and their cultivated land, jooms. The site of a village is selected with reference to the suitability of the adjacent ground for cultivation. After the annual rains have well ceased, or about the beginning of November a certain extent of land is selected, on which all the trees are cut down and left on the ground to dry until February or the beginning of March, when they are burnt. Holes are then made in the ground, into which the five principal seeds employed are placed, and these in due course, bring forth a rich and plentiful crop; the cotton grown is remarkably fine, and the rice is particularly good. The same process is repeated on a fresh site every season, and as at the end of ten years the land within convenient distance of a village becomes by this means impoverished, fresh ground has to be chosen, and to this the inhabitants move off bodily with bag and baggage.

The site selected for the Demagree depôt was at the northern end of the Oheepoom range, immediately below some extensive rapids and falls, where the river opens out into a fine circular basin 300 yards in diameter. The police sent on in advance had cleared a certain extent of ground on the left bank, and erected a small stockade. As Demagree must necessarily be the starting-point for operations against the Syloos and Southern Howlongs, and was to contain the advanced hospital and large commissariat supplies, it would evidently have to be occupied by somewhat considerable numbers until the close of operations. To prevent overcrowding and to secure proper sanitary arrangements, it was therefore necessary to clear a large extent of ground. To do this, magnificent forest trees bound together by innumerable long creepers, had to be cut down, and such was the tenacity of these creepers, that at times eight or ten large-sized trees with the trunks completely cut through near the ground, would be seen swinging in the air, and could only with great difficulty be brought down after some of the larger creepers had been severed. In fact, although the labour of cutting down very large trees did not compensate for the trouble entailed, it was often necessary they should be destroyed in order to get down the many smaller trees suspended to them. A hospital to hold 120 sick, rough huts to shelter 500 troops and 500 coolies, and a large commissariat shed, were at once put in hand; a small magazine to hold the 1st regimental reserve of ammunition was built; a bamboo bridge was thrown across the river where it narrows near the falls, and on the other side space was cleared for elephant lines and for the hill coolies employed on the boat service, and a small commissariat hut was erected. A stockade was built on the hill above, and a good path made from it to Demagree. All these works and the road-making to the front, kept the troops and coolies, as they arrived in successive detachments, hard at work.

To assist in building sheds, but principally to be employed in working the fleet of boats above Burkul, some 500 villagers had been collected from our hill tracts and from the country about Bindabun. These men came much against their will, as they disliked being taken from their own agricultural pursuits, and had a most unreasonable fear of the Lushaies. After making one or two voyages up the river, they began to desert in such numbers that it was to be feared the boat service on

which so much depended, would break down altogether. This proved an anxious time for the General, but owing to his urgent representations, Mr. Hankey, the Commissioner, and the civil authorities under him, went to work with such good will that matters soon began to wear a more promising appearance. An energetic officer, Captain Hood, was placed in charge of the hill coolies, police were sent out to bring back deserters who were sent up the river again, the administration of a few judicious floggings, and the enforced presence on the spot of some responsible head men of villages, brought about by degrees a satisfactory state of things. These men were, however, all along a source of some anxiety, and it was found necessary, in order that none of them might be kept too long away from their homes, which would have proved a legitimate ground for complaint, to have them relieved every two months. The Commissariat Department was obliged to undertake the feeding of them, a contingency which had not at all been expected, and had not been provided for, when calculating what supplies would be required for the use of the expedition.

On the 29th of November the Sapper company arrived at Demagree, and the Officer in command reported that the path so far had been made possible for unladen elephants. Troops had in the meantime been moving up in parties of two companies, and now all future detachments were ordered to bring up with them 10 elephants. Above Demagree many explorations of the neighbouring country had been made to find out the best line to take in advance for an elephant path. An ascent of the left bank, where precipitous rocky cliffs were found, showed that side to be utterly impracticable. Across the river the ground was very difficult and the jungle exceedingly dense, but a tolerable line of road was opened out and made into a path passable for laden elephants in about 14 days' time. This path was taken for $4\frac{1}{2}$ miles up the river to a point where, after all the rapids had been passed, it again became navigable. But for the river work above, it was no easy matter to get the canoes up. A slide was constructed alongside the principal fall, but it proved both dangerous and difficult to pass the canoes up it. Owing to their fear of the Lushais, it was utterly impossible to induce any of the hill coolies to work above Demagree, and had attempts been made to force them to do so, it was feared that the whole of them below that place would at once desert, with the approval of their head men. This work was therefore undertaken by the police, assisted by Panjabee coolies, and to them the line of boat service up the Sahjuck river was also afterwards entrusted.

Whilst remaining at Demagree preparing for a further advance, the General had tried to open communications with the Syloos, so that they might have an opportunity of complying with his demands before he advanced against them. Rutton Pooca had declared that he was on unfriendly terms with the tribe, and unable to send any messengers to them. He had old scores to pay off, and looked forward to their discomfiture with too much interest to permit of his rendering us any willing service on this occasion. He however assured us that the Syloos meant fighting, and that we should first meet them at the Sahjuck river, the passage of which they intended to defend. A Chief

named Lemshilong, who occupied a somewhat independent position and lived between Rutton Pooea and the Syloos, came into our camp, but being seized with a groundless fear of treachery, he suddenly fled and proceeded to join the latter tribe. The only messenger that could now be reckoned on was the head man of one of Rutton Pooea's villages named Lingorah, who had married the sister of a Syloo Chief, and he was therefore kept in charge by the Political Officer until our arrival in the enemy's country.

Towards the end of November a great deal of sickness began to prevail; many Officers and soldiers and about 300 coolies were ill with dysentery and fever, but neither of these diseases assumed a severe form. It had been intended originally that the guns, mortars, and equipment of the artillery should be carried on elephants, but as it would be impossible to delay the advance until practicable roads for these animals had been made, the General determined to employ instead coolie carriage; and owing to the sickness which had commenced, and the hard work the coolies already had to do in forwarding commissariat supplies, road making, &c., it was found impossible to take both the guns and mortars into the field, and the latter were therefore left at Demagree. The strength of the half battery to proceed to the front in the first instance consisted of 2 Officers, 21 gunners, 1 native doctor, 3 artificers, and 12 rank and file of 27th Punjab Infantry attached, and to carry their baggage, artificers' tools, tarpaulins, guns, and 42 rounds per gun 100 coolies were required. To each gun and to each carriage 6 men were detailed, of whom 4 carried and 2 acted as relief; each wheel required 2 men, and 3 coolies were told off to each box of ammunition containing 7 rounds. The strongest and most healthy coolies were selected and attached permanently to the battery. As regards the company of Sappers it was found, after reducing their equipment and working tools as far as possible, that they would require a total of 80 coolies, and a native regiment, according to the scale of carriage ordered by the Quartermaster-General, would have to be supplied with 220 men; in both of these cases it was possible later to reduce the number of coolies.

On the 30th November the distribution of the troops and coolies of the column was generally as follows:—At Demagree, the 2nd Goorkha regiment, the Sappers, and the half battery, and between 700 and 800 coolies; 2 companies 27th Punjab Infantry, and about 300 coolies on the march from Burkul to Demagree; at Upper Burkul $3\frac{1}{2}$ companies, and at Lower Burkul half a company of 27th Punjab Infantry, with some 350 coolies between the two places; at Kasalong, the head-quarter wing of the 4th Goorkhas and 100 coolies, and at Rangamatta, the other wing, with 100 coolies. Having thus sufficient troops to the front, with those in the rear well on their way up country, the General was able to issue instructions for the advance of a detachment of the 2nd Goorkhas, under Major Macintyre, on the 1st December, the date on which the Commander-in-Chief had directed that operations should commence. Matters were not however on a sufficiently satisfactory footing along our whole line of communication up to Demagree, to allow of the General himself starting until some days later.

The Syloos being the tribe nearest to Demagree it was necessary to move first against them, and it was determined to proceed towards the large village of Vanoonah, about 15 miles distant as the crow flies, on the Rae Jan Klang range. The river Sahjuck, a tributary of the Kurnafoolie and the boundary in this direction of the Syloo country, flows along the foot of this range, and was known to be navigable for some miles. It was therefore decided to continue the line of communication for supplies, from the place to which the elephant-road on the right bank of the Kurnafoolie was making, up the rivers to a point on the Sahjuck, called Vanoonah's Ghat, whence a path led to the village of the same name, and in the meantime to find out the best line for troops, coolies, and elephants to march by. A tolerably direct path was fortunately discovered leading from the Kurnafoolie, $1\frac{1}{2}$ miles above where the boat service was again to begin, to Vanoonah's Ghat, and the distance to this place from Demagree was divided into two marches.

On the 3rd. head-quarters of 2nd Goorkhas and two companies marched from Demagree; on the 4th, they were joined by half of the Sapper company and Major Macintyre's detachment, and on the 5th they reached Vanoonah's Ghat. As there were no signs of an enemy on the opposite side of the Sahjuck, Colonel Macpherson, who was in command, set to work to clear ground on the left bank for a stockade and to throw a trestle bridge across the stream. The river here is about 35 yards wide, and except at the rapids some little distance below, which fortunately were not difficult, flows with a sluggish current; the banks, generally steep, are formed by the lower features of high mountain ranges, and are densely wooded to the water's edge. By the 9th the whole of the 27th Punjab Infantry had arrived at Demagree, and one wing, with the remaining half company of Sappers, had been stationed in working parties along the road above that place. Arrangements had been completed for the boat service up the Sahjuck, and the General was therefore able on that date to move forward himself, and on the 10th, Brigade Head-quarters arrived at Vanoonah's Ghat with the artillery and two more companies of the 2nd Goorkhas.

From a hill a little way above the river, a considerable force of armed men could be clearly seen with glasses in Vanoonah's village, and at night large fires, evidently intended as signals were lighted in its vicinity. On the 11th the head-quarter wing of 2nd Goorkhas passed the river, ascended the opposite ridge for about $4\frac{1}{2}$ miles, and occupied a fine open spur without opposition. From this position, Lingorah who has been previously mentioned, as being married to the daughter of a Syloo chief, was sent with a message towards Vanoonah's village, in order that the enemy might have an opportunity of submitting to our terms, should they wish to do so. He soon returned, not having been allowed to pass the Syloo pickets, but he was there told that no communication would be held with us unless we at once retired, that five chiefs were assembled with their followers, and that if we attempted to advance, the consequences to us would be something terrible. Lingorah had been put in a great fright, as the Syloos warned him that as soon as they had settled with us, they meant to have his head

as a punishment for having joined us. On the afternoon of the 13th the fleet of 25 rafts with 200 maunds (1 maund = 80 lbs.) reached Vanoonah's Ghat. It had started on the 11th, and therefore took two days for the voyage. Every raft carried two armed men, as an attack from the river bank which might most easily have been made, had been expected, and it was therefore a great relief to find the fleet arrive in safety, and also that the rapids on the Sahjuck had not proved so difficult as was feared. This raft service continued for the future to be worked by police and coolies under the orders of Mr. Crouch of the police. Those of his men who had been stationed at Ootun Chuttra were relieved by a party of the 4th Goorkhas, and moved up to Vanoonah's Ghat. On arrival of the fleet, orders were sent to move the coolies to the front from the line of road between the two rivers, in order that they might work in advance of the Sahjuck.

On the 14th two parties of 2nd Goorkhas of 80 men each, under Colonel Macpherson and Major Macintyre respectively, were sent out to feel for the enemy, and to reconnoitre paths by which the advance against Vanoonah's village could be made. Major Macintyre proceeded for a considerable distance, had a brisk skirmish with the enemy, who retired at his approach, and having completed the duty on which he had been ordered, returned to camp. As soon apparently, as the firing of shots was heard at the village, it was set fire to by the inhabitants, and the greater part of it was rapidly burnt down. Colonel Macpherson had taken a difficult and circuitous direction, in the hope that a path might be found by which the enemy's position on the ridge could be turned. Although the line of country he followed was so thickly wooded as to leave him uncertain if he was advancing in the right direction, so well was his object fulfilled that he suddenly found himself entering on open ground some few hundred yards to the left rear of the enemy's position at the village. The few armed Syloos that were seen being mistaken at first for men of Major Macintyre's party, the advance was continued. The commencement of firing and the sudden rush of the people to arms, soon made it evident that the enemy was still in occupation, but as they appeared to be unprepared for defence, and quite taken by surprise, Colonel Macpherson pushed quickly onwards in skirmishing order, and carried the village without a single casualty. The enemy lost many killed and wounded, all of whom however, they managed to carry off in the precipitate flight they made. Several guns and spears were found, but so quickly did the Syloos disappear into the thick woods on the further side of the village, that it had been impossible to take a single prisoner. It appeared that when Major Macintyre's party returned to camp, the Chiefs concluded they had driven it back, and proceeded to refresh themselves at the village, and when Colonel Macpherson, whose advance they had not discovered, arrived, they were all comfortably seated at dinner from which they doubtless thought themselves most rudely disturbed.

The following day the site of the village and its few remaining houses were occupied by two companies of 2nd Goorkhas, a stockade was commenced, and the Sappers put to work on the path leading up the hill. Twenty elephants were on their way from Demagree to work this path

of our line of communication, and pending their arrival, embankments were made in the small watercourses so as to form reservoirs. Whilst necessarily halting for a few days on the Belkai Jooms, the reports which reached the General from the rear were the cause of considerable anxiety. The hill coolies' business had not then been satisfactorily settled, and they continued to desert in large numbers; a batch of 300 Nepaulese coolies, whose services now would have been most useful at the front, had arrived on the 7th December at Chittagong, and cholera in rather a severe form had broken out amongst them; and although these coolies were isolated and moved off the line of communication as soon as possible, cholera spread as far up as Demagree, in the neighbourhood of which place a company of the 4th Goorkhas suffered severely. It therefore became necessary not only to isolate the Nepaulese, but other detachments of coolies and troops, until the disease had disappeared, a measure which much interfered with the progress of the expedition.

In the neighbourhood of Vanoonah's village large stores of unhusked rice were found in the joom-houses or barns of the Lushaies. Endeavours were made to turn this rice to account for the use of troops and coolies, but the labour of drying and husking it by people unaccustomed to the work, did not repay either the time or trouble required. It was therefore determined to preserve all the rice that was found near our line of communication for the use of the elephants, and to destroy the remainder.

On the 18th the head-quarters and two companies of the 2nd Goorkhas at the Belkai Jooms were ordered up to Vanoonah's village. As they were falling in, several shots were heard about 500 yards from the camp. A half-company at once went out and came upon a party of about 25 retreating Lushaies, on whom they inflicted considerable loss. The firing heard had come from this party which had laid in ambush on the road in rear of our position, and had fired on three Goorkhas, bringing the post bag from Vanoonah's Ghat. One of the Goorkhas received five mortal wounds, and his two comrades kneeling beside him and firing alternately, kept the enemy in check until assistance arrived. The plucky behaviour of these two Goorkhas was rewarded subsequently by the bestowal of the decoration of the Indian Order of Merit, which carries with it a small pension. About the same time the Lushaies began firing at the men sent down from Vanoonah's village to the small trickling stream below for water, but a few Goorkhas hidden in the neighbourhood kept such a sharp look out, and the enemy showed such a dislike to the whiz of their bullets, that they soon gave up these petty attacks. The Lushaie idea of warfare is to place an ambuscade having an easy retreat, so that if the enemy does not retire on receiving their fire, they can themselves do so, and as in all their endeavours in this line they were finding themselves beaten, the moral effect on them was disheartening in the extreme, and was probably the cause of their not making afterwards a more active resistance to our advance. Fortunately, the Goorkha is a soldier of excellent nerve; he rarely loses his presence of mind, and never throws away a shot; had we commenced the advance with troops who had wavered or shown the least indecision,

or who had allowed the enemy to gain the smallest advantage, even to the carrying away of one head as a trophy, we should have undoubtedly encountered afterwards a more lively opposition, especially along our line of communication. The Goorkha is also very quick and intelligent; in marching to the attack we always proceeded in perfect silence, the leading files peering right and left, and holding their rifles ready for a snap shot should they catch sight of an enemy; words of command were given in an undertone and no matter what the length of our line might be, they were always correctly passed and at once acted on.

On the 19th, brigade head-quarters were established at Vanoonah's village. Endeavours had in the meantime been made to obtain information of the villages and paths in front, but with very limited success. From the summit of the Rae Jan Klang, the village of Savoonga, the Chief of the tribe, could be faintly seen, apparently on the fourth range to the north-east, and to that point the General determined to advance, destroying as he went all villages to his right and left that would not submit, and burning their stores of grain.

On the day the brigade head-quarters arrived at Vanoonah's, Colonel Macpherson started with a detachment of his regiment to attack Lal Hleera's, a village due east, on the summit of the next range and as the crow flies, only six miles distant. Owing to the difficulty of the path, he did not reach it until the morning of the third day. The men leading his advance were fired at the second day, but so thick was the forest that no enemy could be seen. In the night the inhabitants burnt down the village, although on the approach of the troops the following morning, they kept up a brisk fire for several minutes. All that was found on the site of the village and neighbourhood were many fowls and pigs, the latter being acceptable to the low caste coolies. During the remainder of the day, the troops were employed in burning all store-houses in the neighbourhood. By signalling with flags back to the General, Colonel Macpherson obtained permission to proceed to the range to the east to destroy other villages. The summit of this he reached in one day, the enemy having opened a heavy fire from the opposite bank of a river which had to be crossed, but offering no opposition at their villages, from which they fled on the approach of our troops. The detachment stayed a night at Lalpoethal, the furthest village reached, where many hundred fowls and goats and gayals were secured. The next day the troops returned to Lal Hleera's, destroying as they marched numerous storehouses of grain, and on the morning of the 25th reached Vanoonah's, having during their absence burnt some 10,000 maunds of rice, and carried off the greater part of the live stock of three large villages, the total destruction of the same being also caused. Some ten or twelve of the enemy were seen to have been wounded, but as it was only on the open ground near their villages that a sight was ever obtained of them, and then only for a very short time, it was found impossible to inflict any very severe loss on them.

On the 20th, Major Macintyre had proceeded with a detachment in a north-easterly direction, and returned on the 23rd. He had carried with a rush a stockade which the Lushaies made a feeble effort to defend,

and had advanced so rapidly that the enemy had barely time to vacate their villages, much less to carry off any of their property. He burnt two large villages, destroyed over 8,000 maunds of rice, and captured 40 gayal. These gayal, a sort of domesticated bison, are of great value to the Lushaies. They are allowed to wander about the woods during the day to feed themselves, but at night they always return to their village to lick salt of which they are very fond. The flesh of these animals was found coarse and somewhat indigestible; as the Lushaies look upon milk as an excrement, the gayal are merely used by them for food, and one or more of these animals are always slaughtered on festive occasions.

On the 26th, a detachment of 100 men marched along the ridge in a northerly direction for 12 miles, and occupied the site of an old village; the path was tolerably level, but in parts extremely rocky and dangerous for laden coolies. The following day brigade head-quarters with head-quarters of 2nd Goorkhas, the Sapper company and 250 coolies carrying supplies, proceeded to the same site, but so difficult was the road, that many coolies did not arrive until the following morning. It was found necessary afterwards to divide this march into two stages; a great deal of labour was expended on the road to make it passable for laden elephants, notwithstanding this however, two elephants fell over, one of which was killed, and the other so injured as to be of no further use.

The post there established was called Kotheer Klang, and as would naturally be the case on a mountain ridge, the water supply was scanty. Endeavours were made to form reservoirs, but only with partial success. A stockade was built, as was done at every permanent post established, and in it a platform for commissariat stores, and huts for a garrison of one company and a certain number of coolies were constructed. These stockades were made on commanding ground, and a space cleared round them; their shape was irregular, and they were formed by logs about 6 inches in diameter placed horizontally between uprights some 7 feet high, driven firmly into the ground and fastened together by withies. Endeavours were made to find a path from Kotheer Klang to the river, so that the line of supply up the Sahjuck might be prolonged, but the country was so difficult, and the water in the river falling so rapidly, that the idea of making further use of water communication had to be abandoned.

The work of destruction still continued, and every day large fires of burning storehouses were to be seen on the hill sides. The labour thereby entailed on the troops owing to the nature of the country was exceedingly severe. It was learnt afterwards, that when the news of the damage being inflicted on the Syloos reached Calcutta, a great outcry was raised by some of the newspapers against what was called the barbarity and cruelty of such proceedings; but it can hardly be necessary to explain to a military audience, that if an enemy will not stand to try his fate in open fight, an assailant must then follow the only alternative there is, and inflict what injury and destruction are possible on his provisions and stores, until he comes to terms. But already the General was anxiously hoping, that as the Syloos did not seem to have

much heart for fighting, they would give in, and the destruction of their stores of rice be no more necessary, for it was evident, that if continued much longer, the whole tribe, men, women, and children, would be reduced to very great extremities. On the 28th Major Macintyre was sent out with 100 men for three days to destroy two villages to our north. Beyond these two villages, the country was for some twenty or thirty miles uninhabited. With him he took large placards written in the Bengalee and Burmese characters, inviting the Syloos to come in, and promising that when they did so, all further destruction should cease. He attempted through interpreters to parley with the enemy, but only got fired at for his pains. In fact, at the villages he destroyed he experienced rather more opposition than usual, and it could only be concluded that the Syloos had as yet no intention of coming to terms.

On the 30th December, brigade head-quarters with a detachment of Goorkhas marched in an easterly direction for about six miles across a watershed, and arrived without opposition at the village of Lower Hoolien, which had been deserted by the inhabitants. The direct road to Savoonga's evidently lay through a village named Lul Schumah, to the right of the line we had taken, for this had been set on fire as soon as our forward movement was learnt by the enemy. The huts at Lower Hoolien, although somewhat dirty and terribly overrun by rats, proved most comfortable dwellings, and there were sufficient of them to accommodate the 2nd Goorkhas, Royal Artillery, Sappers, and several hundred coolies. Hitherto Rutton Pooea and his very nondescript contingent of some forty or fifty men, had marched with brigade head-quarters, and had been principally remarkable for getting in other people's way on the line of march. His followers had been very ready with excuses when it was proposed they should go out to burn joom-houses or to attack the enemy. At last, from Lower Hoolien, whilst the Goorkhas went in one direction, Rutton Pooea's men went in another to try and do some damage to the Syloos. They were so unfortunate as to get one man shot dead and another wounded, which damped their military ardour considerably. They cut off the head and hands of their deceased comrade to carry to his home, as they said his relatives would not believe in his death unless shown some satisfactory proof of the same. It also appeared necessary that a considerable number of Rutton Pooea's followers should proceed as witnesses to the village of the deceased man, and the consequence was that our ally's contingent found itself reduced to some fifteen or twenty men. Their dirty habits and excessive fondness for pork were so offensive to our native troops, that we were very glad to get rid of them. It must be remembered that Rutton Pooea is the chief who at his first interview with the General, could only with difficulty be dissuaded from starting off with a large war party of his tribe to attack the enemy.

On the 31st December, Major Macintyre was sent with fifty men against the small village of Upper Hoolien on the hill above us, at about three miles distance. Close to it he found a strong stockade, from which the enemy fired one volley, and then ran. He had one man wounded, but it was extraordinary that no more were hurt, for large baskets of

stones and trunks of trees suspended and balanced by creepers across the narrow ridge which led to the stockade, were let fall as his men advanced, but the Syloos, not having courage to let our troops get near them, cut the creepers too soon, and the trees and stones fell harmlessly to the ground. The village was found to contain blacksmiths' forges, and appliances which were supposed to be used in their manufacture of gunpowder, and apparently belonged to a community of artisans.

They certainly gave proof of great ingenuity in being able to manufacture gunpowder at all; but what they made was very miserable stuff, although sufficiently good for the guns from which it was fired. These consisted of barrels with the Tower mark and flint locks fitted to long awkward stocks. They generally loaded with three or four small bullets of beaten iron, and as may be supposed, with such charges they were able to do but little execution.

On the 1st January, 1872, the general distribution of the column was as follows:—4th Goorkhas, at Kassalong, Lower and Upper Burkul, Ootun Chuttra, and Demagree; 27th Punjab Infantry, three companies at Demagree, and the remainder of the regiment holding posts up to and at Belkai Jooms, with half company of Sappers working on the roads near that place; one wing of 2nd Goorkhas occupying Vanoonah's village and posts, thence to Lower Hoolien, at which latter place were the head-quarters of the regiment and three companies, the artillery, and half company of sappers; the remaining company of this regiment at Upper Hoolien. On this date there were, with the column, 1,600 effective coolies, of which number 1,300 at and in front of Demagree; 310 coolies in quarantine on account of cholera, and 512 sick, making a total of 2,422; it is to be noticed that just one-third of our means of transport was at this time unavailable. Orders were now issued to send back to Kassalong, and if necessary to Calcutta, all men not likely to be well enough to resume work within a specified time; but the others likely to be only some five or six days in hospital, could not be sent to the rear, and had to be treated where they fell sick. So that not only were sick coolies useless as regards work, but as every morsel of food they ate had to be brought up from the rear, they proved a very serious burden, and prevented the rapid accumulation of supplies at the principal posts along our line of advance, which the General had been anxious to secure.

About this time, some of Rutton Pocea's men were sent to the Howlongs through Demagree, to let them know how matters had so far proceeded with the Syloos, and what was required from them if they wished to avoid similar treatment. It was anticipated that they would not be able to return under twelve days or a fortnight.

On the 2nd January, brigade head-quarters and all the troops at Lower Hoolien, with the exception of a small detachment, moved to Upper Hoolien. The hill top to the north of this village, has an elevation above the sea of 4,478 feet, and to this the General proceeded to reconnoitre the country to the north and east of which we had been able to acquire the most scanty information, and to determine on the line of advance to be followed to Savaonga's, and

on any smaller operations it might be necessary to undertake in the meantime. An extensive view was obtained, which in the early morning had a somewhat extraordinary character. Between the many mountain ranges, which could hence be overlooked, and following the long winding river courses, were to be seen dense, almost motionless masses of white, cloudlike vapour, having much the appearance of huge layers of cotton wool. This thick mist covered the valleys, the summits of successive mountain ranges rising like so many islands above it. Sometimes a current of air would carry a flood of this vapour across the lower part of a mountain range into the valley beyond, into which it would flow down with the slow and solemn movement of molten lava. This mist generally cleared off at about eleven o'clock, when the view obtained was one of exceeding beauty. The evening effects, however were the most striking; the warm glow of the setting sun then spread a mellow softness over the distant mountain ranges, in the middle distance would be seen the deep purple gloom of the shady valleys, whilst in the foreground rich, tangled, and luxuriant masses of tropical vegetation completed a scene of surpassing loveliness. Orchids, tree ferns, and creepers of wonderful size and length abounded, and it is a matter of regret that the botanist, who the General was informed, would be attached to the Expedition, never put in an appearance. The Lushaies had all their villages on the hill tops, and not a habitation was to be seen in the low-lying unhealthy ground near the rivers. Although the General kept his line of advance as far as possible along hill ranges, both for the sake of salubrity and because the ground was easier, still as we had to move from west to east, whilst the mountain ranges ran north and south, it was impossible to avoid having a few posts in the valleys. The men in occupation of these posts were, however, not allowed to remain there long, and it was not found that a short sojourn had any immediately bad effect on their health. From the General's post of observation, extensive encampments of the people who had fled their villages could be seen far down in the valley below, and he determined to try to surprise one of these; two large villages were observed on the same ridge, the furthest of which was about 15 miles to the north, and he decided to destroy these before proceeding to the east against Savoonga.

A detachment of the 2nd Goorkhas of 100 men, under Captain Battye, was at once sent on, and the result of his march became very evident in the evening by the large fire seen at the first village, which was in flames. The following day, Colonel Macpherson proceeded with head-quarters of his regiment, and the day after, having been joined by Captain Battye, he reached the large stockaded village of Lal Gnoora, one of Savoonga's sons. A heavy fire was kept up for some minutes on the part of the stockade to be attacked, and under cover of this a storming party rushed up, cut down an opening with their kookries, and in a few moments were inside. Major Macintyre climbed over the stockade, and was the first man within the enemy's works. In the assault, one Goorkha was killed and one Officer and seven men wounded. Although there were two inner entrenchments, the Lushaies only defended the outer stockade, and

then vacated the village with their usual precipitation, and with one exception managed to carry off their killed and wounded, which however as far as could be known, were few in number. The next day all the rice stores on the neighbouring hillsides, which had been very extensively cultivated, were destroyed by the Goorkhas, and the village was burnt.

Owing to so many coolies having become inefficient through sickness, the 2nd Goorkhas took with them no baggage coolies on this occasion, and indeed for the rest of the campaign, with the exception of their cooking-pots, the men of this regiment carried the whole of the kits. It must be remembered that in India neither the British nor the native soldier carries on service more than his arms and ammunition. The detachment which was sent to surprise the Lushaie encampment was out from five in the morning until seven at night, but unfortunately the result of a very severe day's work was not successful, the enemy having discovered their approach just in time to effect his escape.

In the meantime, Syloo messengers had approached, by night, the pickets at Upper Hoolien, and said that the Chief Savoonga wished to give in, and that he would make his personal submission as soon as the elephants' tusks, which it was usual to present on such an occasion arrived. The General had them assured that he would be very glad to receive the Chief, and that as soon as he appeared no further harm should be done to them or their property, but at the same time let them know that he had no intention of staying his advance until the Chief actually arrived. A report was now received from the Civil authorities at Rangamattea, that an attack was expected on Kassalong. Colonel Tytler had been placed in command at and below Demagree, and had strengthened that post, and as it was held by such good troops as the 4th Goorkhas, the General felt no anxiety as to the result of any attempt the Howlongs might make on his rear.

It had been impossible to obtain the slightest information as to the line of advance which should be taken to Savoonga's. The General decided to make in the first instance to a village lying directly between that place and Upper Hoolien, on the summit of the next range to the east, and reconnoitring parties were sent out which, after much time and labour discovered a path leading to it, but it proved to be one of too great difficulty to be continued for our permanent line of supply. On the 6th, brigade head-quarters, with two companies Goorkhas, the artillery, and half Sapper company started for this village, which was called Lal Ngoor, but so precipitous was the path in places, that it was only with the greatest labour and difficulty that the guns and provision-coolies could perform the march. The distance was seven miles, which it took the head of the column as many hours to accomplish, and the rear-guard did not arrive until some hours later. To give a proper description of this march, I cannot do better than quote the General's own words, as they appear in his despatch published in the *London Gazette*:—"Where the path did not ascend or descend at an angle of "35°, it followed the tortuous bed of a mountain torrent, overhung by "trees and precipices, and blocked up with rocks and boulders, through "which we waded and stumbled for three miles, chilled by the cold

"clammy atmosphere, and feeling that fifty determined men might do "as they liked with us, for there was no possibility of protecting our "flanks." The immediate approach to the village lay along a spur, from which, at about 1,000 yards' distance, a good view was obtained of its defences, and at this point the General ordered the artillery to unlimber. A company of the Goorkhas, under Captain Nash, worked round under cover on the reverse side of the spur, and arrived close to the village unobserved by the enemy. As the first of our men rushed into it, two shells thrown with admirable precision, burst in its midst, and caused its immediate vacation by the enemy, who had commenced a brisk fire against Captain Nash's detachment. A pursuit was attempted, but as usual, the Syloos were able to hide at once in their thick woods without further trace being obtained of them.

We were now a good day's march from Savoonga's village, where it had been anticipated that a more determined defence would be made than had yet been experienced. But on the 7th, it was given to the flames which, although it did not look like giving in, made it doubtful as to whether the Chief of the Syloos intended fighting there or not. On the 9th, Colonel Macpherson and the head-quarters of his regiment rejoined the General from his expedition against Lal Gnoora's, and on the same day Upper Hoolien was burnt and abandoned, and our line of advance taken through Lal Schumah, by which place a better path had been found.

The rice stores in the neighbourhood of Lal Ngoor's having been destroyed, and sufficient commissariat stores collected at the front, the General advanced on the 11th January with 200 Goorkhas, the artillery, and half the Sapper company towards the site of Savoonga's village. It had been anticipated that this march might have been accomplished in one day, but as at half-past three in the afternoon a considerable distance yet remained to be done, and it was possible that serious opposition might be encountered, the General determined to bivouac for the night. The column had started at seven A.M., and for six hours the path had led along the bed of a rocky, and at times difficult stream. So damp was the ground where the bivouac was formed, that it was almost impossible to find wood that would burn. Although all were pretty well accustomed by this time to roughing it, the night passed here was one of extreme discomfort, and to guard as far as possible against evil consequences, every soldier and coolie was given the next morning a dose of quinine. On the 12th, after a steep ascent of two hours, Savoonga's was reached, a few of the enemy being seen retiring into the woods as our troops emerged on open ground. The men at once set to work to hut themselves, but this was found no easy business, for not a stick of the village was remaining, and as a considerable extent of ground in the neighbourhood had been cleared for cultivation, building materials had to be brought from some distance.

Savoonga's village, on the site of which the foundations of nearly 500 houses were counted, had been built on an extensive mountain ridge, 3,221 feet above the sea; it was over 70 miles by the road followed from Demagree. From a hill top in its immediate neighbour-

hood, a large extent of the Howlong country could be seen; ten large villages within four days' march were observed, and the ground in their neighbourhood was more open, cultivated, and with gentler slopes than the country hitherto traversed, and consequently promised well for the employment of rifle and artillery fire. Hitherto the firing of the troops had generally been snap shots at short ranges. Rutton Pocea had all along promised that as soon as we arrived at one march distance from the Howlong country, he would proceed to their nearest village and bring the Chiefs in, to make submission to the General. On the 13th the Political Officer, Captain Lewin, started with a detachment of 2nd Goorkhas and Rutton Pocea, to see the latter across the Dullesseree River, which forms the boundary of the Syloo country, and was about 4 miles from our camp. On the following day however he returned, Rutton Pocea having said he was afraid to proceed alone lest he should meet fugitive Syloos, and it had not been considered advisable by the General that any detachment of troops should enter the Howlong country until some communication had been held with them. On the 15th he proceeded by another route through Demagree, and was given 10 days by the General in which to bring an answer from the Howlong Chiefs. Mohamed Hassan, a soubadar of police, was sent with him to see that the journey was performed expeditiously, but was only to go as far as the neighbourhood of the first Howlong village, which he was not to enter.

As the Syloos still continued to fire on our escorts, and occasionally of a dark night to creep up to and fire on a picket sentry, one of our men being wounded one night within 20 yards of the General's hut, it was determined whilst awaiting the result of the mission to the Howlongs, to destroy the few remaining villages of the former tribe. Detachments were sent out, which burnt three villages and destroyed all their rice stores, and on the 20th the General, with 160 Goorkhas and the artillery, proceeded against the large village of Lal Jeeka, one of Savoonga's sons, and situated about 12 miles to our north. That night the troops bivouacked; the following morning a strong stockade was reached, about $1\frac{1}{2}$ miles from the village, and at the same time some large stones were let loose from the hill above, by which a few of our men were severely injured. The devoted Syloo who cut the suspending creeper was shot by a Goorkha, and rolled down the hill side after the stones he had let loose. A detachment of Goorkhas was sent to turn the stockade, and the guns were brought up to make an opening by which it could be stormed in front, but before they could open fire the enemy retired. As soon as the stockade was passed, the sound of crackling of burning wood and the sight of dense columns of smoke made it evident that the village, which could not yet be seen, had been set on fire. At about 1,000 yards a good view of it, and of considerable groups of armed Syloos, was obtained; the guns opened fire, and made excellent practice with common shell and shrapnel. It was curious to see the effect of these shells on the enemy: at the first one which fell near them, they evidently were so astounded as not to know what to do, at the second, they began to disperse and at the third, they fairly bolted and took cover under the

stockade. A few more rounds drove them thence, and the Goorkhas, on arriving at the village, found it completely evacuated. The defences were found to have been very ingeniously constructed; a loopholed stockade about 8 feet high, with small tambours judiciously placed, surrounded the whole village, the ascent to which was on all sides steep and difficult; large platforms, covered with stones, were placed at intervals outside the stockade, and were so balanced that by cutting a creeper, which led from them to the interior of the defences, their contents could be let loose on the heads of an attacking force. These platforms were afterwards destroyed by our troops, and the mass of stones which fell from them would have swept any number of assailants down the hill side. The village had contained about 250 houses, and we were fortunately able to save enough of these from the flames to afford shelter to the troops and coolies. On the 22nd, detachments were sent out to burn all granaries in the neighbourhood, and a party of Goorkhas proceeded to the north with some Officers of the Survey who wished to make a station in that direction. Although no Syloos could be discovered during the day, they crept up and fired on the picket sentries at night; so on the 23rd, when the General returned to Savoong's, he left Colonel Macpherson with part of his regiment to await the return of the surveyors.

On his arrival a report reached him that Mary Winchester, the little English girl taken captive, had been given up by the Howlongs and was in Rutton Pooea's village, and that some of the Howlong Chiefs had already promised to bring in their captives as soon as they could be collected together. Owing to the extent of country occupied by that tribe, amongst the several villages of which the captives were known to be distributed, and to the fact that Mary Winchester had already been given up, the General determined not to advance against the Howlongs until the 30th. Before that date a report was received from the Soubadar of Police, who had entered the Howlong villages against express orders, that in the course of a few days the whole of the captives would be collected, but that if in the meantime our troops advanced the tribe would become alarmed, and he and Rutton Pooea would be in danger of their lives. This disobedience of the Police Soubadar caused the General great embarrassment; longer delay would allow time most favourable for military operations to slip away, and would be playing the enemy's game, whilst an immediate advance might possibly bring about the murder of our emissaries and cause fresh complications. Moreover, the hope was still clung to that the captives would be given up, and the necessity of such severe measures as had been taken against the Syloos, avoided. And it is to be noticed that although by this time every known village of the Syloos, to the number of 20, had been burnt, their granaries destroyed, and as much punishment inflicted on them as was possible, the recovery of the captives, which may be looked upon as the principal object of the expedition, had not been effected. What became of the captives when the Syloos determined to fight rather than surrender them was not known, although there were good grounds for supposing they were either murdered or exchanged to remoter tribes for firearms. When the

Syloos eventually gave in only one captive was forthcoming, and they solemnly declared that there were then no more in their hands.

Under these circumstances the General determined to await a report of the return of Mahomed Hassan to Demagree, but if the Chiefs and their captives did not arrive with him, to advance at once against the Howlongs. The time he was thus compelled to remain at Savoonga's, enabled a large depôt of commissariat stores to be collected there, and it was necessary that this should be done, as the number of coolies available would not allow of regular stages being established any further in advance, and consequently the greater part of the men carrying stores between Lal Schumah and Savoonga's would have to be taken off that part of our line, to proceed with provisions for the troops into the Howlong country. On the 1st February there were about 2,400 coolies with the column, of these 688 were sick, 300 were employed at and below Demagree for commissariat purposes, and the remainder, some 1,400, were in advance of that place; but of this latter number some 200 must be deducted who were engaged with the detachments sent out with the Survey Officers and with those which made expeditions of two or three days' duration to destroy granaries, &c., &c.; a few had also to be detailed for purposes of camp conservancy, &c. Twelve hundred coolies were thus available to work the three stages from Lal Schumah to Savoonga's, and to these men it was absolutely necessary to give occasionally a day's rest. Supplies, on the stages in rear of Lal Schumah, were forwarded either by boat or elephants. Coolies eat so much of their own loads, that they are the most unremunerative description of carriage it is possible to employ. For instance, each cooly carries 40 lbs., but he eats of this for his daily ration 3 lbs., that is taking into calculation the weight of rum casks, bags, &c., and allowing for the sirdars and mates who carried no loads; the second day the cooly returned empty-handed, and therefore of every 40 lbs. he took one march to the front he eat 6 lbs., and when his load, starting say from Lal Schumah, had made the three stages to Savoonga's it had been reduced to 22 lbs. At each post it was necessary to keep a company of Native Infantry, and supplies had of course to be left for them *en route*, and it consequently is not difficult to understand, that to collect a fortnight's supplies at Savoonga's, for the thousand men with which the General proposed advancing from that place, required a certain amount of time, and as it happened, abundant time was available for the purpose.

With coolies, the limit to which a rapid advance can be made is soon reached, and may be put down at six days; for a steady and continuous advance it is therefore absolutely necessary to work by a system of depôts which must be formed on a telescopic plan, that is to say, they must be larger nearer the base, and become gradually smaller the further they are advanced. It was found, for many reasons, more profitable to keep coolies employed on regular stages than to send them in a body from one end of the line of supply to the other.

The troops of the column were distributed as follows on the 1st February:—Head-quarters and four companies 4th Goorkhas at Demagree, the rest of the regiment holding posts below that place; the 27th

Punjab Infantry above Demagree holding posts as high up as Lal Schumah, and half company of Sappers keeping the elephant road in order; one company 2nd Goorkhas at Lal Ngoor, and the remainder of the regiment, the half company of Sappers, and the artillery, with brigade head-quarters at Savoonga's.

The Syloos had become very troublesome in the neighbourhood of Lal Schumah, firing repeatedly on escorts, and at night on the picket sentries, and the General had requested Colonel Doran to send out detachments of his regiment, the 27th Punjab Infantry, to try to find parties of the enemy in the woods, and to punish them. On the 4th, a detachment accompanied by Surgeon Smith—nearly all the combatant Officers of this regiment being sick—made a very successful raid. They came on a Syloo encampment, but the occupants being warned by their pickets, escaped before a shot could be fired. It being surmised that they would eventually return to the same place, our men remained near it in ambush for some time, when the enemy began to reappear. Some dozen or so were killed or wounded, and in the pursuit a girl was unfortunately badly shot, who with two women to attend on her, were taken back to our camp, where Dr. Smith had the satisfaction of bringing the wounded young woman on a fair way to recovery.

On the 8th a report was received from Colonel Tytler, saying that Rutton Pooea had returned, with assurances that the captives would at once be sent in by the Chiefs of the Southern Howlongs. The time had however now passed for promises, and moreover, the Northern Howlongs had made no signs of submission. The General therefore determined to advance. As was usual on this expedition, we had been able to get no information of the country to our front beyond what could be obtained by reconnoitring parties, but some of Rutton Pooea's followers had been able to tell the names of the largest villages that could be seen. The plan of advance on which the General decided was to move to the second range to the east, which appeared two fair marches off, to establish there a small stockade, and thence to operate successively in three different directions, proceeding in the first instance against the large villages of Benkoya and Sangboonga, who it was known were two of the principal chiefs concerned in the Cachar raids. The system of army signalling, which had on several occasions proved of the very greatest service, was found in the Lushaie country to be useful also for reconnoitring purposes. The flashes of sunlight thrown off a heliotrope, which are most brilliant on a clear day for a distance of 10 or 12 miles, would bring out the inhabitants of the village on which the heliotrope was directed, in crowds to gaze at it, and by this means it was discovered that the nearest Howlong villages had been abandoned by all but a few fighting men, whilst those at two or three marches distance were crowded with inhabitants.

As probably an advance against the Southern Howlongs would also be necessary, whose nearest villages were about four marches from Demagree, the General directed Colonel Tytler to have the path towards the village of the Chief Seipoya reconnoitred, and on it to establish two posts at intervals of a day's march, to collect

supplies in each of them, and to garrison each post with fifty Goorkhas. The General hoped thus to have all in readiness for a rapid advance against the Southern Howlongs, as soon as he returned from his expedition against the northern portion of the tribe. Three hundred fresh coolies were on their way to Demagree, who would be most useful for future operations, as amongst those in the advance scurvy was beginning to assume alarming proportions. The men of the 2nd Goorkhas, some of the Officers, and many coolies, were now suffering more or less from this disease. Nor is this to be wondered at, when we consider the continued hard work undergone; the deprivation, now for more than three months, of all descriptions of vegetables, milk, fresh meat, &c., and the nature of the climate in which operations had been carried on.

Owing to the continued hostility of the Syloos along our line of communication, it was not possible to reduce the garrisons of the several posts which had been established, and after providing for a detachment to be left at Savoonga's, deducting sick, &c., the General found he could advance against the Northern Howlongs with 300 fighting men of the 2nd Goorkhas, the artillery, and 20 Sappers.

It can hardly be asserted that it would have been prudent to proceed with a smaller force than this against a numerous tribe, having probably some 2,000 or 3,000 fighting men, into a country utterly unknown, where no supplies would be forthcoming, and where the length of time it would be necessary to remain was uncertain. To the few critics however, who condescended to write about the Lushaie expedition, it appeared that the force which had been detailed by the Commander-in-Chief was ridiculously in excess of requirements; various suggestions appeared in the papers, written by people who must have been entirely ignorant of the nature of the country and of the enemy, and even of the objects of the expedition, detailing with what force and in what manner operations should be carried on, and perhaps of these the most amusing was a recommendation contained in a letter to the *Times*, that 200 British sailors should be sent to make a rapid march through the country and to recover as they went all the captives. An exact detail of the troops, followers, and baggage coolies, with which General Brownlow advanced from Savoonga's is given in an Appendix; he took in addition 300 coolies carrying commissariat supplies. On the 11th, Colonel Macpherson started with the advance, consisting of 150 Goorkhas, and bivouacked that night at a distance of 12 miles. No Howlongs had been seen, but a white flag had been found suspended at the point where the River Dulesseree was crossed, and further on the figure of a man, made with sticks and leaves, with both arms stretched out, as an intimation that we were to advance no further. Colonel Macpherson had halted within a couple of miles of two villages, and when the inhabitants saw his bivouac fires they set alight to their houses and fled. The following day the General with the rest of the troops and the provision-coolies marched out and joined Colonel Macpherson. It took the coolies eleven hours to accomplish this march of 12 miles, which was one of great toil and difficulty; in fact so much so, that it could not be maintained as a permanent

stage. On the 13th a reconnoitring party proceeded to the front, and on this occasion was fortunately accompanied by the Political Officer. At first the path led across open downs covered with coarse grass, where several gayal were feeding. This was the first pasture and open ground we had seen in the country; the appearance of the forests which we afterwards entered, differed much from those we had so far been accustomed to, bamboos were exceedingly rare, and there was comparatively but little underwood. After an advance of about three miles, some Howlongs were observed to be shouting from a hill top, and it was learnt through our interpreters that they wished to open communications. Captain Lewin the Political Officer proceeded to meet them, and was then assured that the inhabitants of all the neighbouring villages wished to submit, but that the Chiefs had fled. Several of them returned to camp with Captain Lewin, and in the afternoon a considerable number of Howlongs arrived with fowls, eggs, and other articles for barter. The whole of the coolies, numbering some 450 men, were sent back this day to Sylhoo Savoonga's for supplies.

On the 14th our camp was moved to an excellent position three miles to the front; a stockade was commenced and comfortable sheds built for troops and coolies. This place was called Changmamma, and the 15 miles separating it from Sylhoo Savoonga were divided into two coolie stages. It was here that the General had determined to establish the most advanced post from which to operate in three different directions; but before any advance could be made, the return of the coolies sent back for supplies had to be awaited. The following day reconnoitring detachments were sent out in two different directions. The one which proceeded to the east towards Benkoya's village, found a considerable force of armed men on the opposite bank of a small river about two miles from camp. The chief amongst them, who described himself as Benkoya's head man, said that a small party of some half dozen might proceed and examine the country to the front if they liked, but that as Benkoya was himself coming in to make submission, if he met a large armed party he would probably become alarmed and turn back. The detachment therefore halted, and sent back to camp for orders. As the General wished to give the Howlongs every encouragement to come in, he directed the detachment to return, and Captain Lewin satisfied himself after an interview with Benkoya's people, that the Chief and his tribe were anxious to submit and come to terms, but he warned them that they must do so without delay.

On the 17th, Benkoya and Sangboonga, the two principal Chiefs, came in and accepted the terms offered by the General, and their submission was at once followed by that of the remaining Chiefs of the Northern Howlongs. The negotiations were conducted by Captain Lewin, and there can be no doubt but that many small difficulties which arose were smoothed away by the wonderful personal influence which that Officer exercised over these rude barbarians. The Chiefs had a great fear of treachery, and it was no easy matter to disabuse their minds of the idea, that if they came to an interview in the neighbourhood of our camp, they would not be seized and either transported or beheaded. They brought forward the story of the Northern

Lushaie Chief, named Lal Chokla^s, who some years ago surrendered himself, as they say on a promise of pardon, but was then seized by us and transported. And it is so far true that such a Chief was transported, but it is not to be supposed that any British Officer had previously given a promise of pardon. These Chiefs brought in some captives with them, and others were sent in, in the course of a few days, and from their evidence the General was able to satisfy himself that none of them had been kept back.

On the 16th, sufficient supplies had been collected at Changmamma for 1,000 men for twelve days, and before these had been consumed, fresh stores could have been forwarded from the rear. Had the Northern Howlongs declined to come to terms, there can be no doubt but that all their large and important villages, and the greater part of their grain stores could have been destroyed within the space of twelve days. Changmamma is 210 miles by the line of advance followed, from the base of the column at Chittagong, and 85 miles from the advanced depôt at Demagree. A detachment subsequently proceeded to Benkoya's village, about 15 miles further on, and situated on the eastern border of the Howlong country, which was the most distant point in this direction reached by the troops of the column, and may be stated at 225 miles from the base. Had it been necessary, the General was in a position to have advanced by rapid marches 50 miles beyond Changmamma. It must be borne in mind that the length of the direct line of advance cannot be taken as any test of the extent of country traversed. It may be said that almost every corner of the Syloo country was looked into; wherever an encampment was discovered a detachment was sent out to destroy it; villages in every direction and at several days' march from the main line of advance were attacked and burnt, and all storehouses at whatever distances perceived, were doomed to destruction by the Goorkhas. The Syloos, having of their own free will resolved to fight, and having rejected our subsequent overtures to come to terms, drew down on themselves certainly a severe punishment, but one which the General hoped would have a lasting effect both on themselves and on the neighbouring tribes. And there can be no doubt but that it had an immediate effect on the Howlongs. They had watched from their hill tops, for two months, the steady burning of one Syloo village after another, and had been told by fugitive and famished Chiefs of the dreadful effects of our steel guns and Enfield rifles.

It will be remembered that according to the original instructions issued, the two columns were eventually to meet. The line of advance followed by General Bouchier had been so far to the eastward of what had been expected, that a meeting with the Cachar column would have been attended with more fatigue and risk than the result could warrant. General Bouchier's advance had been most successful, but in order to reach the most guilty Chief on the Cachar side, it had been necessary to make a march of very great length. He had reached Lalbhourah's village of Chumphai on the 20th February, on which date he had sent up rockets, hoping they would have been answered from our column; but the high intervening mountain ranges, and the distance he was

from us as the crow flies a good 50 miles, had prevented their being seen. As General Bouchier retired at once after burning Chumphai, and taking into consideration the great distance he there was from his base, it is hardly possible that he could have remained stationary for even a couple of days, much less have advanced to meet us. For the two columns to have met, it would therefore have been necessary for a detachment of General Brownlow's troops to have marched at least 80 miles over an unknown and mountainous country, and to have made its way through several independent tribes, who would in all probability, have resisted its advance. In the face of these difficulties, and more especially on account of the enfeebled state of both troops and coolies, the General decided against attempting to effect a junction with the other column.

After peace with the Howlongs had been declared, our camp used daily to swarm with hundreds of these people, with whom a very brisk business was done. The only articles of food they had for sale were fowls and eggs, but numbers of their pipes, sporans, powder-flasks, sheets, &c., were bought as curiosities. We found them a good-natured, active, manly race, very independent in their manners, and very curious about all matters connected with us. Colonel Macdonald, of the Survey, who was the tallest man in our camp, generally had a group of admirers round him during the greater part of the day, and we all had to allow them occasionally to satisfy themselves by looking up our sleeves that the rest of our bodies was of the same colour as our hands and faces. These people were the most inveterate smokers it is possible to conceive, and their little children are seen to go about, pipe in mouth, as soon as they can walk. They proved altogether of great interest, and I regret that the limited length of this lecture prevents my saying more about them.

Two detachments were sent out some 15 miles in different directions, with the Survey Officers, and leaving Colonel Macpherson with the head-quarters of his regiment to await their return, the General with the rest of the troops, marched on the 23rd to Sylhoo Savoonga. On arrival at that place, it was ascertained through the Howlongs, that the principal Syloo Chiefs had assembled near the site of Lal Jeeka's village, and that there was a division in their councils as to what course they should pursue. Some were for waiting until we commenced to retire, and then attacking us in a combined body, whilst others wished to give in and accept the General's terms. This intelligence caused General Brownlow so far to alter his plans that, instead of hurrying on to proceed against the Southern Howlongs, he determined to wait Colonel Macpherson's return, and then try to strike another severe blow at the Syloos before the season compelled him to vacate their country. However, on the afternoon of the 25th, some Syloo emissaries arrived, and were anxious to know how their Chiefs would be received should they come in; and early on the 27th, the seven principal Chiefs of the tribe appeared, bringing with them offerings of gayal, goats, gongs, elephants' tusks, &c. They most solemnly declared that they had only a few captives left, and that it would take some days to find these. The head-quarters of 2nd Goorkhas had

reached Sylhoo Savoonga on the 26th, and on the following day, as soon as peace had been concluded with the Syloos, a detachment was sent to the rear, and orders were dispatched for the 27th Punjab Infantry to retire on Demagree as their several posts were relieved by the 2nd Goorkhas. The latter regiment was to occupy posts on the Rhae Jan Klang range, on account of the salubrity of the position, until required to start to Chittagong for embarkation. On the 28th, a survey party, with a small escort, and with thirteen days' supplies arranged for, started to connect the survey operations of the column, with those that had been previously made, as far as Byparee Bazaar.

Leaving Colonel Macpherson to retire gradually, as the stores which had been collected at the several posts were cleared out, the General started with brigade head-quarters on the 29th, and proceeded by double marches to Demagree, which he reached on the 4th March. On arriving at that place he found the Southern Howlong Chiefs had sent in a certain number of captives, but it was believed that they retained some in their possession, and moreover they had not come in to make personal submission to the General, as they had promised to do. He therefore determined to proceed into their country with a detachment composed of 27th Punjab Infantry and 4th Goorkhas, which regiments had not undergone such hard work as the 2nd Goorkhas, and as no serious resistance was anticipated, the remainder of the troops and those coolies not required were to be pushed down to Chittagong and embarked, as transports were provided for them from Calcutta. Accordingly the General started on the 7th March, with one mountain gun, two companies 4th Goorkhas, and two companies 27th Punjab Infantry. With this force he marched over 40 miles in three days, across a most difficult country, to the village of the chief Sypooea, situated at an elevation of 4,100 feet above the sea. This Chief went out to meet the General, and at once did all that was required of him. On the 10th and 11th the force halted, but as some Chiefs still did not come in, another march was made on the 12th, which resulted in bringing in all the heads of the Southern tribe, whose submission was required. Several more captives were surrendered, and from this part of the tribe alone nearly 100 British subjects were recovered. Some of them had been in captivity for years, and as a rule, they seemed very far from rejoiced at their deliverance. On the 14th and 15th the General halted, in order to allow of the survey parties proceeding out in different directions, and on the 16th he commenced moving back to Demagree. The vigour and rapidity with which this advance into the Southern Howlong country was made, received the most marked praise and approbation of the Commander-in-Chief.

The operations of the column were now closed, and I will borrow from the General's despatch to describe briefly the results of the four months' campaign. They were "the complete subjection of two powerful tribes, inhabiting upwards of sixty villages, of which twenty that resisted were attacked and destroyed; the personal submission of fifteen chiefs, and their solemn engagement on behalf of themselves and tributaries for future good behaviour; the recovery of Mary Winchester, and the liberation of upwards of 150 British subjects,

"who had from time to time been made captives. In addition the operations of the column, which by frequent departures from the main line of advance, covered a large area, enabled the Officers of the Survey to triangulate 3,000 square miles of country, more than half of which was surveyed in detail, and also to complete the connection between the Cachar and Chittagong districts."

Our casualties were trifling and consisted of 7 killed and 13 wounded; from sickness, there were 30 deaths amongst the fighting men, and amongst the coolies and followers, 118. There is one matter on which I think Sir Charles Brownlow may justly pride himself, and that is, that despite the constant endeavours of the Syloos, we did not lose one coolie or camp follower, and this can only be attributed to the very complete and strictly enforced orders which the General issued about escorts, and against wandering at any distance from the posts occupied.

The same day that the General returned to Demagree, he dispatched the artillery and detachment of 4th Goorkhas down the river. Arrangements had been made for the return of all troops and coolies by the Kurnafoolie, so that the march through the unhealthy country lying between Demagree and Burkul might be avoided. The weather was getting very hot, and as at this season cholera was to be expected, very careful arrangements for the movement of troops and coolies to Chittagong had to be made, so as to avoid overcrowding at any one post, and so as to retain detachments in occupation of the most healthy positions until the latest possible moment.

On the 17th March the head-quarters 4th Goorkhas embarked at Chittagong, and vessels continued to take detachments thence every fourth or fifth day, until the 1st April, when the brigade head-quarters and the last of the troops embarked, and reached Calcutta on the afternoon of the 3rd.

I feel extremely doubtful if it is becoming in me to make any remarks regarding the General, on whose staff I had the honour of serving during this expedition. But I trust he will not take it amiss, if I mention that it was the opinion of those who served under him, that the success he obtained was in no small measure due to the confidence in his ability and experience, with which he inspired all under his command. The necessarily limited length of this lecture has prevented my entering on many important particulars connected with the operations of the Chittagong column, and the account I have given will lead probably to the conclusion, that the whole business was very easily and smoothly conducted from beginning to end. But I must observe that many difficult and delicate questions arose, and if these had not been met with that decision and ready assumption of responsibility, which are so characteristic of Sir Charles Brownlow, the small campaign on which we were engaged might have had a very different termination from that which actually occurred. To be perfectly successful in Indian warfare an advance must be steadily continued until the desired results have been attained. Any semblance of retreat, or a lengthened delay at any one point, embolden an Indian enemy, and he may then become very enterprising in his attacks and difficult thoroughly to subdue. General

Brownlow's advance into the Syloo country was not rapid, but it was sure and steady, and it was conducted on the principle that had it been necessary to halt for any lengthened time to negotiate, or for any other purpose, there would always be sufficient supplies available to prevent the necessity of having to retire before the work to be done, had been satisfactorily settled.

In all previous expeditions against the Lushaies, our troops had simply advanced into their country, burnt a village or two, and then retired again as quickly as they had advanced. The Lushaies appear to have thought that we should have done the same on the last expedition, and most probably this is the reason that induced them to resist us.

From the experience of this expedition one general conclusion may certainly be drawn, which is, that when campaigning in a hilly country in India, tents may with safety be dispensed with. It would be difficult to find a more trying climate for the experiment than that of Lushaie, and yet I can confidently assert, that the possession of tents would in no way have improved the health of the troops. When tents are not provided, each man should have a waterproof sheet, a great coat, and a good blanket; the latter to be carried for him. The waterproof sheet should be 7 feet 6 inches by 4 feet, with eyelet holes round the edge; the weight of such a sheet is 4 lbs. It can be used on very wet ground to lie on, or should time not allow of huts being built, it can be used as a *tente d'abri*, and it can also be used as an extra covering against cold, or two men might lie on one, and cover themselves with another. In the moist, relaxing climate of Lushaie, there was no doubt regarding the beneficial effects of the issue of a moderate amount of rum, and I think it may be concluded that in the hills of India, where the native soldier on service does not always get the same amount of animal food as when occupying cantonments in the plains, and where often British troops enter on a campaign somewhat debilitated from the effects of a trying hot season, the issue of rum is not only beneficial, but absolutely necessary.

The circumstances under which hill expeditions are undertaken in India, and the nature of the country and of the climate are so various, that it would be impossible to lay down any rigid scales of organisation, equipment, or carriage, &c., which would be applicable to any case which might arise. But the experience of all expeditions should be carefully collected and arranged in a tabulated form, and such information would undoubtedly be of great use, in arranging the details of any force, that may in future be sent on active service. I believe that during the last few years, it has been the practice in the Quartermaster-General's Office in India, to compile all such information.

It is now generally acknowledged that when troops take the field, too much attention cannot be given to the proper organisation of an efficient and sufficient means of transport. The equipment, organisation, and fighting qualities of our troops, both British and native, are all that can be desired, but these become useless if an army is incapable of rapid movement, owing to insufficient means of carriage. The Officers placed in charge of the transport should be selected with the greatest care, and should be both well rewarded and well paid, so that

this particular service may not be looked down upon, as has been generally the case. As soon as an expedition is decided on, the carriage should be at once entertained and organised, and should, if possible, be in a thorough state of efficiency before the troops take the field, and it would be even advisable, to delay the commencement of operations until this result can be attained. It is a difficult and unsatisfactory process to attempt the organisation of a transport train, as it arrives piecemeal at the scene of operations, when it is necessary to put every detachment of the train to work as soon as it arrives. There can be no doubt, but that the success of hill campaigns in India must depend entirely upon the efficiency of the carriage employed. The Commissariat Department worked well, but it was under-handed, there being only three Officers to superintend a line of supply nearly 200 miles in length, and one moreover of great difficulty. The only carriage worked under the control of that Department were the elephants, and as it required the whole time and attention of one Officer to arrange proper stages, and to set these animals to work, an energetic subaltern of the artillery, Lieutenant Brough, who had had experience with an elephant battery, was detailed for a short time for this special duty.

It is only right to mention, that despite the very hard work, and the somewhat severe privations undergone, there was never a grumble heard amongst either Officers or men, and I do not think that any body of Her Majesty's troops, especially the 2nd Goorkhas, on whom the hardest work fell, ever performed a rather trying duty with greater cheerfulness than those composing the Chittagong column of the Lushaie expedition.

In conclusion I would express my humble opinion, most strongly confirmed during this short campaign, that on active service it will be absolutely necessary to amalgamate the Adjutant and Quartermaster-General's Departments, under a chief of the staff; and if this opinion, which I believe is that of many high authorities, is correct, it appears desirable that this amalgamation should be honestly and thoroughly carried out during times of peace.

APPENDIX.

	Officers.	Fighting men.	Followers.	Baggage Coolies.
2nd Goorkhas	7	300	Company followers..... 15 } Dooly bearers..... 41 } 74 Hospital establishment.. 6 } Officers' servants..... 9 }	Blankets, at 10 30 } Cooking pots 24 } Great coats, at 32 8 } 84 Native officers..... 4 } Medicines 3 } Native doctor..... 1 } Officers 14 }
Sappers	1	20	Company followers..... 3 } Dooly bearers..... 6 } 14 Hospital establishment.. 1 } Mistresses 3 } Officer's servant 1 }	Tools 13 } Flags 1 } 25 Hospital 3 } Men's baggage 6 } Officers 2 }
Royal Artillery	4 (Includes Dr. Meadows.)	41	Public followers..... 16 } Officers' servants 3 } 19	Guns 30 } 6 boxes ammunition..... 18 } Tools and stores..... 3 } Tarpaulins 1 } 77 Pannier and tarpaulin 2 } Men's kits 13 } Officers, 8; spare, 2 10 }
Survey	2	0	Servants 2 } Lascars 10 } 12	Axe coolies 3 } Lascar's coolies 3 } 12 Officers' coolies 6 } Coolies 8 }
Political.....	1	0	Cookies 12 } Interpreters 5 } 20 Orderlies 2 } Servant 1 }	
Brigade Head Quarters	5	1	Servants 5 } Chupprasic..... 1 } 9 Syces 3 }	Baggage coolies 12 218 = 728
	—	—	362	

N.B.—Officers were ordered to take several days' rations, and for this purpose extra baggage coolies were allowed.

LECTURE.

Friday, June 21, 1872.

COLONEL THE HONOURABLE P. R. BASIL FIELDING, C.B.,
Commanding Coldstream Guards, in the Chair.

PERSONAL EXPERIENCES AND REMINISCENCES OF THE SIEGE OF PARIS.*

By SURGEON-MAJOR WYATT, Coldstream Guards, F.R.C.S.,
Officer of the Legion of Honour and Consulting Surgeon to the
National Rifle Association.

THERE are duties associated with every public position from the discharge and responsibilities of which, no man can venture to absolve himself, or to shrink from willingly rendering an account of his stewardship, but more especially is it due to this Institution, which evinces so deep an interest in all matters pertaining to every branch of the Naval and Military services of the country. When our indefatigable secretary wrote to inform me that the Council had done me the honour to request that I would deliver a lecture on experiences gained during the siege of Paris, I felt very considerable difficulty in undertaking the duty, although appreciating very highly the distinction implied in the request.

In accordance with the title of the subject selected, it appears incumbent on me to review the circumstances and events which occurred during my sojourn in Paris, and to submit to you a brief record of personal narrative, without allowing myself to drift into more strictly professional details than is likely to be interesting to such a distinguished audience as I have the honour to address; then, to review any special peculiarities of the siege; and consider the practical instruction afforded by its varying aspects and periods. Having had the good fortune to serve throughout the Crimean campaign, during which I was enabled to obtain much practical information of the medical department of our gallant Allies, as well as of the Russian Army, to which, after the declaration of peace, I was officially accredited on a special mission of enquiry, it was then manifest that, compared with the recorded experiences of former wars, much was capable of improvement and many principles required to be modified in accordance with the recognized laws of sanitary science especially,

* The publication of this lecture has been unavoidably postponed.—Ed.

but also in the practice of military surgery; and if such was then a fair conclusion, how much more evident must it now be, owing to recent development and discoveries in the increased destructiveness of improved weapons, combined with the altered character of military strategy and tactics. It will be in your recollection that, on the 15th July, 1870, the Duc de Gramont proclaimed, in the French Chamber, that the Emperor had resolved on war with Prussia; after which announcement, I inquired, through an official channel, if it were likely that any subject of a neutral power would be allowed to accompany the French Army, for the purpose of observation of matters connected with military surgery, but was informed that an inflexible rule had been laid down not to permit any foreigner to be associated with it, in any capacity whatever; the reason for which decision will be easily understood, when we remember how thorough a want of all preparation for war, in every department of the Army, was subsequently manifested; but, unfortunately, much valuable opportunity was lost by the delay which occurred, in persuading the authorities of both nations to sanction so desirable a mission—a thing to be regretted, both on the score of humanity and science. I shall carefully avoid alluding to political theories in this Institution, but we all must have had our personal sympathies at the commencement of the war, which, with many, no doubt, as events progressed, became modified; yet I, at least, could not forget my old Crimean friendships and associations, or the generous succour rendered by the French, to our sick and wounded, on the banks of the Alma, and their active and ready conveyance of our disabled soldiers from the inclement heights of Sebastopol to the transports in Balaclava harbour. These circumstances, coupled with the inability to speak the German language, must account for my preference for the mission to the French Armies. It is, indeed, with a self-mistrustful spirit, and specially of my own powers of expression, that I venture to claim your indulgence for the many shortcomings and imperfections in the observations I shall have the honour to offer, for I am fully convinced that the amount of experience gained will be thought of slight value compared to what might have been expected from the circumstances attending the siege of a capital possessing such resources as Paris; but I venture to hope that, acting on the determination to form an unbiased judgment, from personal observation alone, a few conclusions have been arrived at, which may tend to confirm some of our guiding rules, if not to suggest others capable of being turned hereafter to useful account, in the interests of military surgery.

By the favour of the Secretary of State for War, and with the sanction of His Royal Highness the Field-Marshal Commanding-in-Chief, I was directed to proceed to the Head-quarters of the French Army. I arrived in Paris, with the Queen's Messenger, on the 10th September, 1870; on the 18th, the investment of the capital by the German Army was effected, the girdle of iron having been effectually drawn around the whole circuit of the beleaguered city. The official instructions received were, to proceed to the Head-quarters of the Army, which was a physical impossibility, as none then existed, and as the then Minister of War, General Palikao, had been superseded by General

Le Flo, great delay arose in our recognition by the military authorities.

The circumstances of being shut up in Paris, so completely changed the character of our position, as intending observers of military operations in the field, that, for the sake of having some occupation, we requested permission to offer practical assistance in the hospitals, if the authorities were willing to avail themselves of our services, and we were subsequently provided, by the Intendant-General, with a general order of admission to all of them.

At this time the spy-mania was at its height, and my worthy Scotch colleague, who had preceded me to Paris, but who, unfortunately, was then unable to speak the language, was very soon arrested, and exposed to considerable indignity, by being carried off through the streets to the Prefecture of Police. The account of his troubles amused me, but my own powers of endurance were soon destined to be tested in what might have become a far more serious matter, which I will briefly relate.

Just before leaving England, I had received a letter, written in German character, which in the hurry of departure I accidentally put into my pocket, intending to ask some one to translate it. I had emerged with a friend from the Palais d'Industrie (at that period the seat of operations of the Société Nationale de Secours aux Blessés), and found a battalion of infantry on the line of march, halting in the Champs Elysées. We made a few passing observations to one or two of the soldiers who were decorated with our Crimean medal, and continued our route, but shortly after, a corporal with a file of men surrounded us, and to our surprise announced that his Captain had ordered that we should be arrested as spies and conveyed to the nearest military post. I suddenly recollected that the unlucky German letter was in my trowsers pocket, but the difficulty of tearing it into fragments with one hand and gradually dropping them undetected in the street, can only be appreciated by anybody who will attempt the necessary manipulation, under strict surveillance. The valiant Captain of the National Guard at the Mairie, to which we were conducted, happened to be a tradesman, who stated that he was patronised by many English customers, which was rather a cheering announcement, and he was good enough, moreover, to dispense with the formality of any personal searching, which was for me a further relief. We were then allowed to despatch a note to our Embassy, from which an Attaché soon arrived to account for us. It was a reminiscence not to be forgotten in those peculiar times, but we were informed next day that the official report against us was for having been found on the ramparts examining the cannon. At this period of the siege, to look at the name of a street or ask for the slightest information, rendered you an object of suspicion to some zealous patriot, but to be seen taking a note of anything, was fatal to your personal liberty. The correspondents of the press were very energetic in absorbing every portion of news percolating through the remaining Embassies, but the events to be recorded, even with the advantage of their graphic genius, did not offer much variety, yet they strove hard to witness as many incidents of the siege as possible, and several of them endeavoured to procure a better recognised position

by temporary employment on the staff of the ambulances, under the protection of the red cross, rendering good service in aid of the wounded, and obtaining greater facilities for accurate observation of events. The French journals were too often replete with fabulous reports. Our mission, of course, was to inquire into every variety of sanitary and surgical detail connected with military service, but it was to the latter branch that I was directed to devote my special attention. When, from the completeness of the investment, all communication with the provinces was cut off, the capital was necessarily thrown upon its own resources both as to men and material, with the necessity of providing for the accommodation of the sick and wounded. On the 5th September, General Vinoy arrived in Paris with one corps d'armée, composed of three divisions of regular infantry, with a due proportion of cavalry and artillery, and also some provincial mobile troops; after which the estimated strength and material, composing the available garrison, was stated to be about 50,000 troops of the line, 100,000 garde mobile, 300,000 national or civic guard, with 25,000 sailors and franc-tireurs, yielding a total army for the defence of Paris of 475,000 men (more or less) for the accommodation of whom, beside the regular barracks, temporary encampments were formed in every available situation, consisting either of the *tentes de troupe*, for the accommodation of twenty men, or the *tente d'abri* for two, one-half of the latter tent being carried by each man; besides this, some very light wooden huts were hastily put together, but whether the encampments were temporary or permanent, there was a lamentable deficiency of all necessary sanitary arrangements.

Almost from the date of the investment, General Trochu's efforts were directed to the welding together of this heterogeneous mass of living material, almost all the available thoroughfares being appropriated to incessant drilling, and it was interesting to watch the relative aptitude of the various squads of recruits, for Paris might then have been considered as a gigantic barrack square. I observed one little novelty which is suggestive, when a rapid instruction in manual and platoon exercise is required. A squad of recruits being formed up in line before the drill sergeant, the most inexperienced would be placed between two others more advanced in drill, so that he might not only hear the word of command given by the sergeant, and observe his practical manipulation, but also become aware of the action of his comrade on either side. This appears a useful hint worth remembering, although perhaps not quite in my department. A humorous friend called it an illustration of one raw being placed between two readys; verily the whole manhood or boyhood of every description and occupation appeared imbued with an uncontrollable military mania, for even the children in the streets had their tiny chassepôts, knapsacks, and drums, to play the game of soldiers. Considering the urgency of the moment it was impossible, as it would have been unfair, to institute any comparison between the army of defence, as then existing, with that of ordinary times, far less with such troops as we remembered in the Crimea; indeed, the greater portion of the regular troops, comprising General Vinoy's Corps d'Armée, had seen service in the field,

and, although young, were obedient to discipline, but they were not sufficiently numerous to exercise, over the masses of armed men around them, any very abiding influence of control; the discipline of the 35th Regiment of the Line was very creditable. There was a perpetual marching of regiments from one side of the city to another, according as the Council of War decided upon changes in strategical plans, and it was often remarkable with how heavy a burthen the soldier toiled on the line of march, for beside the regulation weight of 72 lbs., which is about 10 lbs. in excess of that which the British soldier carries, he was often weighted with many extras, rendering him quite independent for a time of all transport conveyance, either for food, fuel, or shelter, a great desideratum no doubt, when a cautious reconnaissance is attempted; but I cannot think the *tentes d'abri* altogether desirable for any prolonged occupation. As the cordon of investment was so close to the besieged city, the movement of troops outside the fortifications was necessarily very limited in extent. The scale of rations could not be kept uniform, and as the siege advanced, the daily allowance proportionately diminished, becoming eventually altogether insufficient to sustain even a moderate degree of physical strength, but, under every circumstance the *bouilli* always somehow appeared at the evening meal, in confirmation, I suppose, of their maxim, "that the soldier makes the soup, but the soup makes the soldier." The regulations of the French Army require that the Captain of each company should direct his special attention to the daily supply of provisions for the men, and the instructions are very rigid on that point, requiring the Officer to state in his report, that he had tasted the soup.

At the final sortie of Montretout, the whole of the food carried by each soldier, for six days' consumption, consisted of 10 sailors' biscuits, 1 lb. of sugar, 1 lb. of roasted coffee (not green), 50 grammes (or about 1½ ozs.) of salted meat. I was often reminded by the fragrant smell of their hot coffee, of our sad acquaintance with the green berry, of Crimean fame, and I recognise now, amongst my audience, a valued friend, who supplied it to the authorities, after protesting in the strongest manner against its issue in such a state.

The Garde Mobile was at this time a component part of the civil army of France; it was raised about three or four years before the war, as an auxiliary to the regular forces; but it must not be confounded with the Garde Nationale sédentaire, such as formerly existed in all the large towns of the Empire. The Mobile Guard is a kind of provincial militia, the men coming chiefly from agricultural districts; the Officers were appointed by the Minister of War, many of them having more or less of hereditary position in their departments; but the non-commissioned officers were appointed by the Chef de Bataillon. The men, on an average, were from 20 to 25 years of age, the best period of life by far for active field service, and most of them had previously drawn "bon numéros" for the conscription. No substitutes are allowed by purchase, as in the line, and they must serve for a period of five years, but on home service only, assembling for drill once a week during the summer months (generally on Sunday) at the principal canton or arrondissement of their department, where their arms and

accoutrements are kept, and for this duty they receive a regulated daily allowance upon a higher scale than the regular Army. Each battalion is composed of from 800 to 1,000 men, and when embodied, the discipline is identical with that of the line. I have alluded to the organisation of this national force, because much misconception exists as to its nature. The contingent which came to Paris did very creditable service, and I can safely say the men were generally quiet and steady: I doubt whether the same number of country militia recruits in London would have conducted themselves better, if so well. Their military career during the siege proves that a well-affected civil element can be soon welded with more experienced soldiers for active service. The forts were all garrisoned by sailors, who were vigilant, courageous, and obedient to discipline; indeed, it was difficult for their Officers to induce them to surrender their positions to the Germans, in accordance with the terms of the capitulation; and for many days after the evacuation of the forts, they might be seen in groups wandering about the streets of Paris, with a downcast look of melancholy dissatisfaction; they were, however, decidedly in better physical condition than the soldiers, whose privations and exposures throughout the siege had been so much greater. The Franc-Tireurs were a set of marauding volunteer sharp-shooters, amenable to scarcely any control; they harassed the outposts of the enemy, but scarcely deserved to be considered as legitimate combatants, taking great credit for the successful stalking of any unfortunate German sentry or vidette whom they might catch unawares. As to the so-called National Guard, with which every town in France abounded, I fear the contingent of Paris cannot as a body be spoken of very favourably, but as it has now been disarmed and disbanded, I have less hesitation in stating my own impressions. Every elector became *de facto* a member, and the code of regulations to which they are subject is peculiar, but very extensive, occupying a large volume, which I had some difficulty in procuring for presentation to our War Office. It contains instructions upon the minutest point of organisation and discipline, but the events of the siege furnished a signal example of how a theoretical discipline will break down in practice. The rank and file varied between 25 and 45 years of age; they perform periodically military service through the year, generally about once a week; residing at their homes, and retaining their arms, accoutrements, and clothing. If they do not appear for duty after being warned three times, they are liable to be imprisoned for any period not exceeding five days; but after a certain number of these periods of absence, they forfeit entirely their civil rights, by order of a "Conseil de Discipline." During the siege, the daily pay of a private was 1½ francs, with 25 centimes for his wife; they were also entitled to receive succour in kind from the municipal store. Their sphere of duty during the siege was chiefly upon the fortifications and interior of the city; the officers are all elected by the men, but the *chefs de bataillon* are chosen by the officers, in whose deliberations five men per company take part; each battalion numbers 1,500 rank and file.

During the exigencies of the siege, every Commanding Officer was

vested with authority to deprive any man of his daily pay, but upon continued absence, after being warned three times for duty, he could award forty-eight hours' confinement. There was a General Officer Commanding-in-Chief, with a Brigade-Major, the former paid by the Government: being quite a family party, the National Guard have a *conseil de famille*, to administer and regulate the internal affairs of each company, such *conseil* being composed of the Officers belonging to it, one selected non-commissioned Officer, and two privates.

Towards the latter part of the siege, an effort was made to associate a portion of them with the Army outside the fortifications; four special companies, of 125 men each, were selected from each battalion, and, with a similar contingent from other corps, a battalion of Garde Mobile de Marche was formed of 1,000 men, who selected their Officers in accordance with their usual custom. At first, it was decided that marriage should exclude service in this special corps, but that idea was subsequently abandoned, and if there was no family to provide for, no exemption was permitted. They were all furnished with new uniforms. The career of the National Guards requires some further notice, inasmuch as their name must be for ever identified with this memorable siege; and I am the more anxious to do so, because a distinction must always be made between the battalions belonging to the well-affected quarters of Paris, called the party of order, and those raised in Belville and Villette, the habitation of the most dangerous characters of the population, who, when enrolled and armed as citizen-soldiers, were subsequently guilty of the most atrocious deeds of cruelty and despotism; indeed, it was marvellous that so insubordinate and lawless a community could have been so long capable of tolerating, much less submitting to, any constituted authority; possibly the chiefs of the "rouge" party were biding their time, and waiting for a favourable opportunity for the development of their plans, which the disarming of the regular Army, at the instigation of M. Jules Favre, at the time of the capitulation, unfortunately provided. These misguided battalions hoped, no doubt, to have found more sympathy and adherents amongst the citizens generally, in which expectation they were much disappointed; but, strange to say, the battalions of order, as they styled themselves, although ten-fold more numerous, never made any real attempt to stamp out the insubordinate spirit of the disaffected, who rallied to the cry of "Vive la Commune" and its symbolical representation, the *drapeau rouge*; so, for a time, they became masters of the situation, and the real dictators of Paris, establishing an arbitrary and tyrannical authority, which was oppressive to every grade of their fellow-citizens, many of whom they coerced to join their ranks. Every civilian force, to be reliable in time of war, must submit to strict military discipline, which should be the more rigid in proportion to the youth of the men and length of service contemplated; but when every man may do what is right in his own eyes, and submit to just as little control from his superior Officers as happens to be suited to his own views, all hope of true discipline must end; and when a national Army is saturated with the contagious sentiment of liberty and equality, it will invariably be impatient of control by the constituted authorities. The National

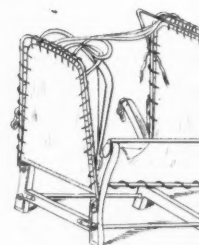
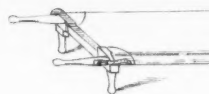
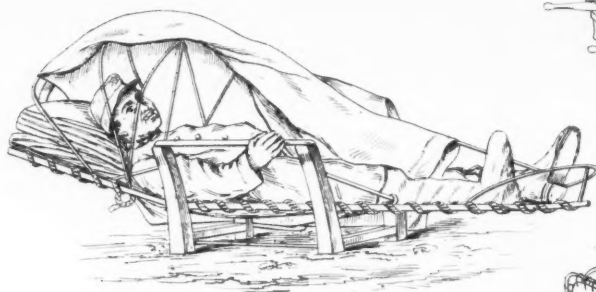
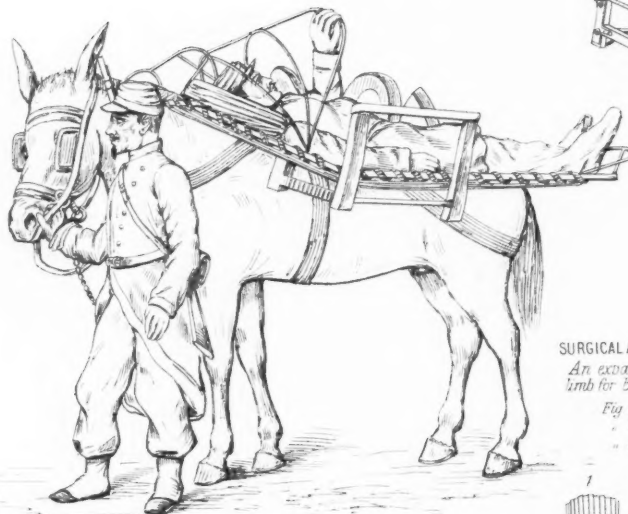
Guards of Paris were theoretically prodigious warriors, "full of strange oaths, and bearded like the pard, jealous in honour, sudden and quick in quarrel, seeking the bubble reputation even to the cannon's mouth," and when comfortably seated at the restaurants, often talked loudly of their eagerness to meet the enemy, though I doubt if the interview would have been very prolonged. You may see, lying on the table, a peculiar-looking article, which is, in reality, an emblem of their prowess; it is a life-preserver, in the shape of a steel cuirass, lined with leather, to be worn under the uniform, in front of the chest. Hundreds of these were sold in the shops, under the name of *Plastrons* or *Cuirasses Garibaldiens*. This protector was actually worn by a brave man at Montretout, and you see that it displays evidence of bullet marks, whether received in action I cannot say; the owner died soon afterwards, and so it fell into my hands. I doubt if our museum contains any more remarkable appendage of modern warfare. The Versailles troops, upon the final capture of their unhappy city, were accused of indiscriminate slaughter of innocent people, and although wholesale retaliation can never be justifiable, yet some allowance must be made for the feelings of loyal troops becoming excited at the sight of so much destruction around them. The following example will illustrate the ferocity of which these bloodhounds of the Commune were capable, and which I had from a strictly reliable source:—When the Government troops entered the city, and advanced by the Arc de Triomphe to the vicinity of the Palais de l'Industrie, driving the Communists before them, a sergeant and private of Chasseurs, who got too far in advance of their detachment, were captured and taken to the Place de la Bastille, where a barricade, like a veritable fortress, had been constructed, behind which these unlucky captives were placed, and forthwith invited, with a promise of speedy promotion, to serve in the ranks of the Communist forces. This they declined. The sergeant was then made fast to a chair, with his hands and feet tied, liquid petroleum well rubbed into his hair, cap, and clothing, and the poor creature set fire to. A crowd of sentries and others gathered around, one and all deaf to his cries and entreaties for mercy, while this diabolical atrocity was being acted. His comrade, feeling assured that his turn would come next, seized a favourable moment to dart round the side of the barricade, and ran in a zig-zag direction down the street; he was fired at several times, but escaped unscathed, and eventually returned to the same house in which he had been billeted the previous night. It is only such wretches as these who could have taken part in the murders of the unoffending hostages in La Roquette, and I cannot regret that some of them subsequently received the retributive and well-deserved punishment at the hands of the Marquis de Galliffet.

Besides the frequent encounters between the outposts, there were four considerable sorties carefully organised beforehand, three of which resulted in severely contested struggles, but all, as you are aware, invariably terminating in defeat; still each one of them presented certain peculiarities more or less instructive. The first demonstration, which might be appropriately termed a reconnaissance in force, took

place, at noon, on the 30th October, in the direction of Reuil, and resulted in an engagement with the enemy more severe than was expected. It was evidently an effort on the part of General Trochu to test the quality of his troops, who did on this occasion carry their kits; there was great excitement in Paris that morning when it became known, the necessary orders had at last been given for the rendezvous of the ambulance vehicles, acting under the red cross flag, as it was the first occasion on which they had been combined with those of the regular Army. The arrangements made for the wounded were conducted in a satisfactory manner, under the control of the Intendance. The second sortie, on the 29th November, resulted in the battle of Champigny, in which the efficacy of the mitrailleuse was fairly tested for field service. The weather was perfect in every respect, the sky clear, the atmosphere bright and crisp, and at night a glorious moon shining out, bright and clear, between the flashes of the electric light, which shot out from the fort of Vincennes, illuminated a more ghastly battle-field than even that of Inkerman. This desperate and closely balanced engagement was fiercely contested throughout the whole of one, and part of the following day, and extended beyond Brie-sur-Marne, but it resulted in the entire defeat of the French; it was, no doubt, the turning point of the siege; and had the French been able to hold the important position they captured on the first day, a very important blow on that side of the German investment would have been struck. But it was not to be; the 25,000 Wurtembergers, several times driven back by the mitrailleuse batteries, repeatedly rallied, and, true to their inspiring cry of "immer forwards," desperately charged, and eventually carried everything before them. The French were compelled to recross the Marne, but they fought with great vigour and determination, and, for a time, General Ducrot might have felt justified in believing that the statement of his published manifesto (probably duly reported to the enemy) might be realized, viz.:—That he would break the iron band, and never return to Paris except as a dead man or conqueror. This sortie was arranged for the day before, but the Marne was so swollen by the rains as to prevent it; on that occasion the entire ambulance-transport was paraded on both sides of the Seine, near the Trocadero, and remained in readiness to move during the entire day, but was dismissed late in the afternoon, with orders to rendezvous next morning at five. The river steamers had been requisitioned for the service of the wounded, and lay all day with their steam up, but everybody felt that a day had unfortunately been lost, and that what had been so cautiously arranged as a surprise, would now become well known to the enemy. However, on the 30th, the troops moved out of Paris by Vincennes, and crossed the Marne on admirably constructed pontoon bridges, the river steamers keeping abreast of the long line of ambulance vehicles, which, besides those of the Army and of the different aid societies, comprised every species of private and public vehicle, each one having on either side of its driver, the distinctive flag of the Geneva Convention, and the national colours of the Society to which it belonged, including our own time-honoured Union Jack, which, I must say, procured for its bearer much respect, and often special consideration. It was

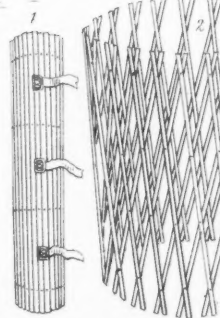
calculated that with the river steamers, the mules with the cacolets and litières, of which you see a drawing (see Plate), accommodation was provided for the transport of 5,000 wounded, and it was a favourable opportunity for estimating the relative value of each kind of conveyance. The appearance of these sortie excursions formed one of the remarkable souvenirs of the siege, and reminded me somewhat of the advance of our troops from the landing in the Crimea to the Alma, with the fleet of transports moving parallel to the land forces. More than 1,000 men, with stretchers for conveying the wounded from the field, were employed, a large proportion of whom had received no previous instruction or special training for rendering assistance to wounded men, whose sufferings were, in consequence, often much aggravated. This duty was best performed by the Press Society, whose brancardiers or bearers (300 in number) belonged to a religious order, called "*frères chrétiens*," and who, without pay or reward, voluntarily came forward to render aid in any capacity connected with the hospital-establishments of that admirable Society; for the press in France, as in this country, is ever foremost in support of all true Christian charity. From having acted as a Member of their Council, I became aware of the energy, discipline, and concord with which everything was conducted. The society was a private aid society specially attached to the War Office, and of which the directors displayed a becoming deference to constituted authority. The French soldiers are always great adepts in thoroughly availing themselves of any surrounding resource for personal convenience, when bivouacking on active service; and this was especially observable by the rapid manner in which they would construct a temporary protection for the night, by digging a pit, if no dry ditch was near, then throwing up the earth to windward, and making a blazing fire of wood within, from the ruins of the surrounding houses; when rolled up in their blankets, they huddled themselves together for the night, having previously partaken of a savoury mess of rice and horse flesh. The latter was abundantly obtained from the numerous animals killed in action, the bones of which were speedily stripped and scraped by relays of hungry warriors, each of whom carried off a portion of often quivering flesh, with apparently as much gusto as if it were a tender rump steak. A grim skeleton of the animal was thus speedily produced, which stood out in bold relief in the moonlight, reminding one of Landseer's celebrated picture of the Dead Camel in the Desert. Of all the ambulance-vehicles, that of the Americans was by far the most complete in every respect, and displayed great fertility of inventive resource; but one great requirement for battle-field service was not fulfilled by any of them—viz., that all the stretchers should be exactly of the same size and shape, so that the wounded when once placed thereon, might not be tortured by a second removal to another, specially adapted for some particular carriage; this inconvenience arose from the different societies acting independently of each other, without the control of any central organisation; and the wounded suffered in consequence. Every kind of private and public conveyance was utilized, as previously stated, for the transport of the wounded, but the great desideratum of sufficient lightness in construction was very

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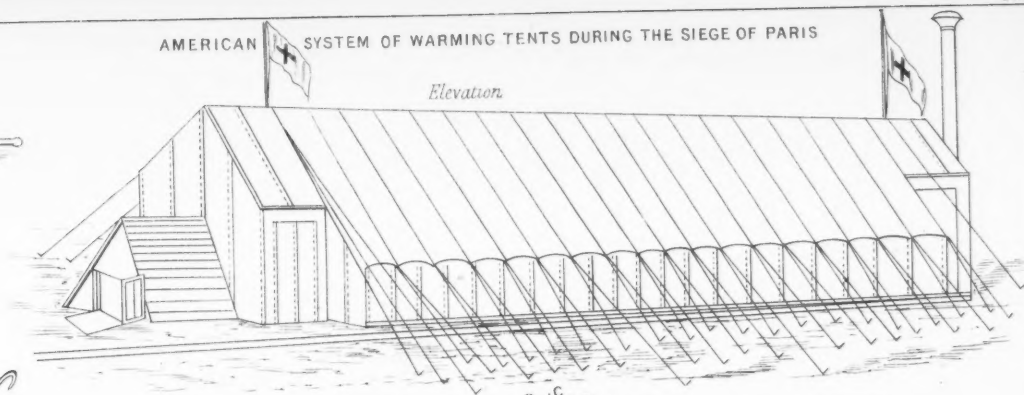
SURGICAL APPARATUS DEVISED BY
An expanding Splint for immobilizing
limb for Battle field or Hospital

Fig 1 The Splint contracted
2 Do expanded
3 Do applied

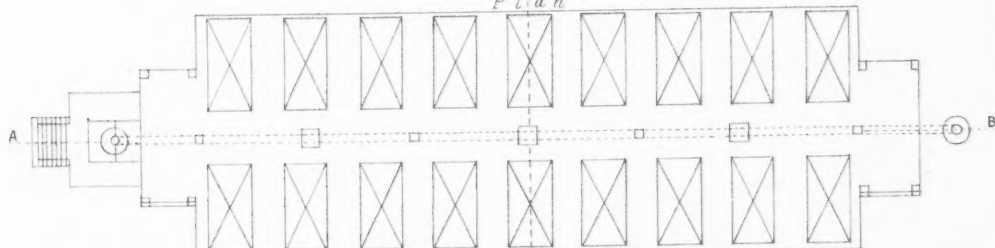


AMERICAN SYSTEM OF WARMING TENTS DURING THE SIEGE OF PARIS

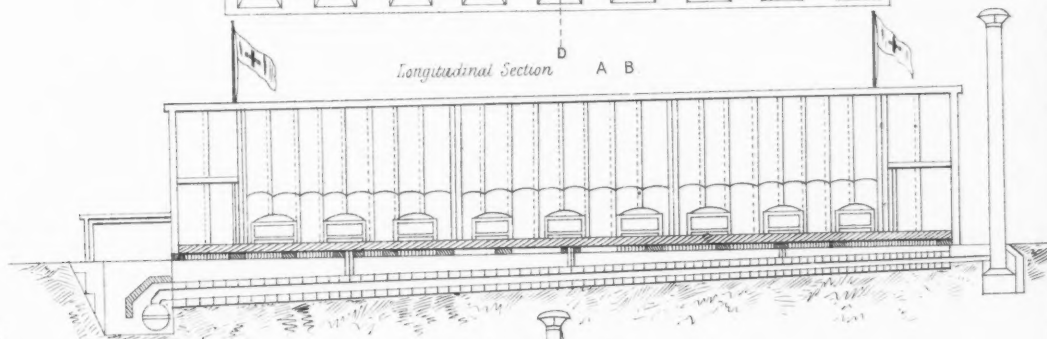
Elevation



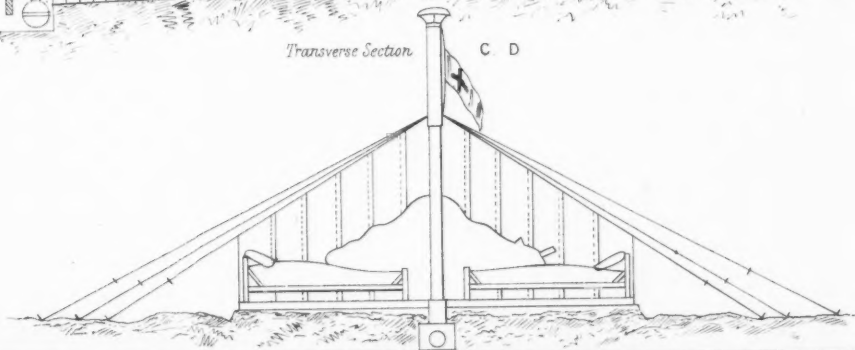
Plan



Longitudinal Section

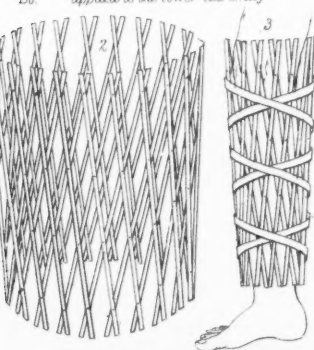


Transverse Section



APPARATUS DEVISED DURING THE SIEGE OF PARIS.
Splint for immobilisation of any fractured
limb in field or Hospital use.

The Splint contracted for portability
Do. expanded for application
Do. applied to the lower extremity.





rarely attained; some of those belonging to the private society were tolerably efficient, but to provide for the conveyance of wounded men under the varied conditions and circumstances in which they may be placed, at least three kinds of transport are necessary—that by mules or horses for mountainous and hilly districts; by light two-wheeled covered carts, for employment on the battle-field, to the first lines of temporary assistance, such as a better form of the variety called *massons*; and four-wheeled carriages (of which those constructed by the International Society were the best) for conveying wounded from the point where they had been deposited by the previous methods specified, to the stationary or permanent hospitals in the rear. A very useful framework was contrived for supporting any kind of stretcher, upon which a wounded man could lie, in any wheeled vehicle or railway van, without being shaken. But railway transport for wounded was employed to a very small extent during the siege; indeed, the consideration of the best method for utilizing the ordinary railway carriages for conveyance of wounded, whether soldiers or civilians, is a subject not yet sufficiently developed, though deserving the earnest consideration of every Government and Railway Company. The want of water for assuaging thirst on the battle-field was also a cause of great suffering; the remedy for this is, to require every trained bearer to carry a supply in his gourd, or tin, as part of his field-kit, which should *not* be used in dressing wounds; care being taken that the transport carriages should have as large a tank as possible for that purpose. Such were some of the hints to be gathered from this important struggle, in which the French certainly fought with great bravery, but against an enemy inspired by constant previous success. The deserted houses in the vicinity might have been made more fully available for the shelter and more urgent requirements of the wounded. I must not omit to say, that the statement in the official report of Sir Hugh Rose, when acting as our Commissioner at the French headquarters in the Crimea, was on this occasion fully borne out, *viz.*, the inconvenience and frequency of men unnecessarily leaving the ranks to assist a wounded comrade to the rear.

The following is the statement alluded to, which deserves every consideration:—"Transport of the wounded from the field of battle to a "good ambulance, besides satisfying the rights of humanity and sustaining that spirit of confidence in the soldier, which, like discipline, "should never leave him, has another admirable effect:—it obviates "the incalculable disadvantage of troops engaged in action leaving "their ranks for the purpose of carrying off the wounded. Certainly, "good soldiers have no other motive in leaving their ranks for this "purpose than sympathy for a suffering comrade, but, on the other "hand, all know that on a field of battle there are at times men of a "different description, who either seek rest or refreshment, or are as "desirous of placing themselves as their companions in a place of "safety, and four or five such men are seen assisting to the rear a "man for whom one attendant would be sufficient. Nothing is so "likely to insure a reverse in action as want of confidence, and the "gaps caused by the men leaving their ranks to carry away the

"wounded, which is most practised when it is most prejudicial, at the time and places when and where the enemy has caused the most casualties, and consequently when every available man should be present and ready to fill up broken lines, and assist by his concurrence and example in resisting or attacking the enemy."

The remedy for this would be the organisation of a *special corps of trained bearers*, such as exists in the German Army, and in the official report which I have had the honour to submit to the War Office, I proposed that two men per company should be always kept efficiently trained, who, besides being alternately employed in the hospitals during peace, would, in war time, unite to form a corps of highly trained field assistants. The first consideration with every Commander-in-Chief, is undoubtedly to conquer the national enemy, and attention to the wounded can unhappily be only secondary to this obligation, to which the medical, in common with other departments of the Army, must be subservient.

The engagements of Drancey and Bourget were fought on the 21st of December, being renewed to some extent on the 22nd. The cold was intense, the thermometer indicating 19.7° of Fahrenheit at noon, with a biting east wind; the entire plateau d'Arvon was literally swept by the German artillery fire, which, although incessant through the whole of the first day, yet caused but a comparatively small number of casualties, and as it was not possible to be too much *en évidence*, I posted myself in one of the naval batteries, and had the satisfaction of watching some well-directed practice on the enemy's position. Railway transport was here made use of for the conveyance of the sick from the station of Noisy-le-Sec, on the Strasbourg line. The arrangement was simple, consisting merely of the suspension of a double row of stretchers through loops of rope attached to iron hoops driven into the transverse sections of the roof of the fourgons, after the fashion of slinging hammocks. This sortie certainly tested the quality of the soldiers, who were compelled to lie on the ground for two and three nights, badly clad and now insufficiently fed; to perform this duty with cheerfulness under such a degree of cold, entitled them to admiration and compassion, for they had not even the stimulus of victory to sustain them, but were beginning to be disheartened by a want of confidence in their leaders. The appearance of some of the sentries was grotesque enough, with the hood of their great coats enveloping their heads, in addition to a large sheepskin covering. They were generally well supplied with gloves, and were able to maintain circulation in their legs and arms by slinging their chassepôts across their back (*à la bandoulière*), which, in my opinion, is a convenient and desirable plan in cold weather, and it impedes neither efficiency or vigilance. Cold is a tonic or a debilitating agent, according to the state of the constitutional powers, but I fear the troops indulged too freely in raw spirits, which undoubtedly increased the liability to frost bite, of which there were 640 cases reported in General Ducrot's corps alone, 60 of which terminated fatally.

The fourth and last great attempt to break through the German lines was made on the 19th January. It was the first occasion

on which the bataillons de marche of the National Guard were employed with the regular troops, and they behaved as well as might have been expected. The rain which had fallen in the night and early part of the day rendered it very difficult for field artillery or infantry to move, the ground being converted into a perfect quagmire; but all evidently looked on it as a supreme effort, and although fighting against hope, and even with a foregone conclusion of defeat, many signal instances of courage and self-devotion were displayed. The Private Aid Societies, having profited by previous experience, established intermediate temporary hospitals in the villages of Luresne and Putaux, where every requirement recommended by experience, was carefully prepared; the mortally stricken were left to die in peace in these temporary ambulances, while the less severely wounded were conveyed as speedily as possible to the permanent hospitals in Paris. The system of attaching tickets to the coat of a wounded man, describing the injury, and relief afforded on the battle-field, proved of great service in preventing unnecessary subsequent interference until arriving at the permanent destination. But the necessity of special knowledge being required by those engaged in the assistance of the wounded, was here painfully manifest. In connection with this battle, an incident occurred to myself and a distinguished Austrian surgeon on the following day, which is perhaps worth alluding to. We found in one of the houses, which had been temporarily appropriated for the wounded, what the man in charge called a dead Mobile, who was lying strapped to the stretcher on which he had been brought from the field on the evening before. He was said to have been wounded in the head, which I found at a glance to be correct, but he was not quite dead, or even dying. It was an instance of which during my career I have seen several, where in wounds of the superficial parts of the brain, vitality continues and will continue at a very low ebb, often for five or six days, the respiration being scarcely perceptible. The astonishment of the concierge was great when we insisted on having the poor creature undressed and placed in a bed; but more so when he was found to be able to swallow some wine and to grasp our hand, while uttering indistinct murmurs. After remaining some time with him, we requested an interview with the village surgeon, who had previously seen him. I never was able to ascertain what became of this poor Mobile; no doubt he ultimately died, but still it was a satisfaction to have prevented the possibility of the living being buried with the dead.

The return of the defeated army to the city was marked by sad depression, visibly displayed both on the part of the troops and the crowds of citizens who awaited us at the gates, for everybody felt now convinced that the last card had been played, and that all chance of relief from the provinces must be abandoned. We could no longer delude ourselves with the hope of any relieving army from the provinces to raise the siege; moreover every sort of food was becoming daily scarcer and scarcer; a list of current prices prevailing about this period is appended (see Appendix), and here is a sample of the bread issued in daily allowances of 300 grammes, or

about $\frac{1}{2}$ lb., but I will spare you the sight of the 30 grammes of horse-flesh which accompanied it, and represented the amount of food supplied to each person. The composition of the bread was of common flour one-eighth part only, added to four-eighths of a mixture of potato starch, rice, lentils, split peas, vetches, oats, and rice, ground up together, with one-eighth part of chopped straw and the husks of the grain; two-eighths of water was necessary to consolidate the nauseous mass, which was of course unleavened; and it was estimated that its nutritive power was in the proportion of about 1 to 12 of the bread ordinarily consumed by the peasants.

This, with the want of fuel, caused the most severe suffering of the population during the siege; certainly I suffered most from it, as there was no other kind to be had, and it was often difficult to swallow a portion, even when dipped in the morning cup of chocolate. Horseflesh, said to be digestible, was to me unfortunately quite the reverse, even in any form. The French are decidedly an omnivorous race, and can apparently digest any kind of animal flesh, with indifference. I had an opportunity of tasting a choice morsel from most of the animals of the *Jardin d'Acclimatisation*, which were sold to a speculating English butcher, who was reported to have realised considerably by the transaction. The only animals spared the merciless slaughter were the monkeys, out of respect, it was stated, for the Darwinian theory of kindred. No doubt it was under the pressure of famine and consequent misery that about this time murmurs of dissatisfaction, and a cry for the Commune, began to be echoed from the disaffected quarters (prompted by the language of some of the daily journals), which culminated in the murder of the lamented General Thomas, from which date the terrible reign of the Commune may be said to have commenced.

No relative information has been yet obtained to enable us to estimate with accuracy the relative disabling effects resulting from the improved weapons of modern warfare compared with those previously employed, for although a larger number of casualties may occur in a given time, yet the aggregate loss in killed does not appear to have increased, as the above table (see Appendix) will illustrate. It used to be a common saying, that "every bullet has its billet," which might have applied to our old friend "Brown Bess," with a range of 100 yards. Of the cannon of position employed during the siege, some were rifled and some smooth-bored, with mortars, and howitzers of brass and iron. The infantry were nearly all armed with the *chassepôt*, which projects its bullet to a distance of 1,500 or even 2,000 yards, and it is stated that a man can fire about six rounds of ball-cartridge from it per minute, but that this rapidity of firing is effected at the expense of precision, especially with young soldiers during the excitement of action, so that though the immediate results were not so decisive as we might have expected, still the development of the long range weapons of precision has enhanced the importance of skilful tactics and strategy. The Prussian needle-gun is remarkable for accuracy of fire; the invariable defeat of the French cannot, therefore, be attributed to the comparative inferiority of their weapons. Opinions varied very much

as to the value of the mitrailleuse; but the Germans, who had the best means of judging, held it to be better adapted for the defence of positions than for active service in the field; and that the continuous growling report of the "bullet-squirt," as they called it, was more intimidating than destructive, as, even at a moderate range, it was not capable of much precision, although at nearer ranges, and brought to bear upon large masses of attacking troops, it often produced great slaughter, as at Champigny and at Gravelotte, where, in storming the formidable position of St. Privat, 6,000 men are stated to have fallen in less than half an hour, from the combined fire of mitrailleuse and chassépôts. The leaden casing of the German rifled shells rendered them most destructive, fragments being projected during their transit, and, prior to their explosion, in all directions producing the most terrific wounds; but I believe our own Shrapnell shell would be more destructive than any of the large projectiles of either the Germans or French for purposes of offence; and that it would silence the fire of the mitrailleuse, whether behind earthworks or barricades. Profiting by dearly bought experience, the Versailles troops, when afterwards attacking the Communist batteries, did not expose themselves much, but destroyed the barricades by artillery fire, and thus cleared the streets of all solid obstacles. Bayonet or sword wounds were rarely observed, very few instances of close conflict having taken place. A projectile impinging on a resisting body produces effects dependent, on the one hand, on its velocity of transit; and, on the other, on the compact structure of the bones and intervening tissues. Unhappily, in modern warfare, relief to the wounded cannot be afforded on the field of battle, with a rapidity proportioned to the extent and velocity of the destructive power employed, and modern tactical operations must, by their very rapidity, tend to do away with the separate regimental hospital system, even if it be retained in time of peace; but the duty of the military surgeon is to take care that, though the ingenuity of men may invent new means of destruction, humanity and skill be not defective in devising additional methods for the relief of suffering. Pardon me for alluding to a few professional details, just to state, that there were some peculiarities observed in the nature of the wounds which may be interesting even to you; the extraordinary deformity of the bullets, when extracted, was remarkable, even when the bones had not been much injured. Another peculiarity was, that when the bones were struck, and the limb penetrated, there was almost invariably detected a quantity of leaden scales deeply imbedded in the surrounding muscular tissues, such as at Wimbledon we call "splashings." These foreign bodies are liable to produce irritation, and the subsequent formation of abscesses, which impedes the healing of an amputated limb, or the cure of one which has been attempted to be saved by what is termed conservatism, which, in surgery as in politics, is essentially preservative. Hence my contrivance of a set of small instruments made in Paris (see Figs. in Appendix) for the detection and removal of such foreign bodies, and which effectually obviates the objection to the deservedly far-famed Nelaton probe, the porcelain bulb of which is liable to become smeared over with blood in being with-

drawn from any dry wound, and thus obscures the mark of lead upon its surface. I have, with the approbation of my generous and distinguished friend M. Nelaton, devised a sheath for the probe, which completely encases it, and is depicted in the Appendix; the same sheath also serves equally for the introduction of a gimblet to be used instead of any distending forceps for extraction of the detected lead, or for the subsequent introduction of a magnetic probe in case the foreign body should be of iron or steel, when a pair of specially-contrived forceps can be inserted through the same sheath to extract any fragments which exist. Of all special peculiarities in wounds that came under my notice, the increased severity of injury to the bones was undoubtedly the most remarkable, the comminution and concussion being extreme in every direction, especially in the course of the medullary or central canal, necessitating the most careful manipulation, and anxious reflection as regards the practice to be pursued; because, if amputation be decided on, there will often be no healing of the wound if performed too near the seat of injury, whereas, if preservation of the limb be attempted, unless the most perfect immobility can be obtained, the *dernier ressort*, or amputation, must be performed under more unfavourable circumstances than at first. Very gentle efforts in the extraction of bullets are more than ever necessary, so as to disturb as little as possible the fragments of splintered bone, or additional injury to the surrounding sensitive soft structures.

I purposely refrain from displaying any specimen of these facts, as being scarcely an appropriate place for such demonstrations.

After one decisive examination of the wound, subsequent interference is now more than ever deleterious. To aid the precautions alluded to, I devised the simple appliance (see Plate), of an expanding splint, by which any fractured limb of the body can be either temporarily or permanently secured, combining the advantage of readily inspecting the seat of injury with the application of local remedies, the cost of which is only a few shillings, and I think it an improvement on the ordinary splints used for the treatment of fractures, being of lighter construction, more portable, and far less expensive.

Few drugs are necessary in the practice of military surgery: those really essential might almost be counted on the fingers; for successful practice is now considered to depend more upon the correctness of aim (or diagnosis) than in the amount of ammunition (or drugs) consumed in the exact adaptation of means to the end; in the surgeon's self-reliance and correct appreciation of the exhaustless resources of nature, which permits him calmly to wait and abstain from doing possible harm, when he has not a reasonable hope of achieving positive good; but conservative surgery should regard the preservation of life as well as of limb, as when simply expectant or attempted without the association of accurate judgment, resulting from experience, it may lapse into that of inaction.

The German soldier, in time of war, always wears round his neck a small tin badge, upon which is stamped his number and everything necessary for his regimental identification, a regulation of vast assistance to the authorities, for the collection of authentic returns of deaths.

Such a plan would have been of great service to us during the confusion of the Crimean war. But as the German tablet is not very convenient to wear, I have devised one made of bone, on which may be inserted the necessary regimental data upon one side, with the record of native locality on the other.

The accommodation provided by the established military and civil hospitals of Paris would have been utterly insufficient for the reception of sick and wounded, if they had not been supplemented by private auxiliary assistance, which was associated, in different degrees, with the principal societies of volunteer aid, namely, the *Société de Secours* (or International), that of the press, municipal and evangelical establishments, and the ambulances constructed by some of the railway companies at their termini, all, however, being protected by the red-cross flag. But, besides this extensive accommodation, some of the owners of private houses generously converted one of their principal rooms into a *salle des malades*, in which three or four wounded were tenderly nursed and cared for by them; unfurnished rooms were supplied by others; while a third set offered apartments, with suitable furniture, but without provisions; all, however, were actuated by the same patriotic devotion, and attached their little establishments to one or other of the sections of voluntary aid previously specified. On the 25th January, the official sick report of the Army of Paris numbered 40,120 sick and 4,282 wounded, more than half of whom were housed, fed, and nursed by the resources of private charity. The International Society alone supported, in different degrees, 223 private ambulances, which represented a total of 4,450 beds, varying from 6 to 250 for each; but the selection of both its central establishments proved, as might have been expected, very unfortunate, but especially so as regards the Grand Hotel, which acquired the unenviable epithet of *le grand tombeau*, as it assuredly was to many who had the misfortune to be treated in its crowded diminutive rooms, with very defective hygienic arrangements; indeed, its continued occupation would have quite justified official suppression by the authorities, if any proper vigour had existed. Of thirty German prisoners placed on the same floor, none being very severely wounded, only eight recovered! It was under the control of an able and zealous retired Medical Officer of the Army, and M. Nelaton who exercised the surgical surveillance with his usual consummate ability; yet no other hospital in Paris proved so truly that disregard of the beneficent laws of nature will successfully defeat the best directed human skill, and that nothing can compensate for an impure atmosphere; indeed, with few exceptions, I regret to say that this observation would apply to all the permanent hospitals of Paris, in which primary union of amputations were never even attempted. The rate of mortality increased greatly with the advance of the siege, and compared unfavourably with similar months of the previous years, as the following carefully compiled table demonstrates:

A COMPARISON OF THE MORTALITY IN PARIS SIX MONTHS, OF TWO
SIMILAR PERIODS.

	Three months of 1869 and 1870.	Three months of 1870 and 1871.
Small-pox.....	947	7,092
Scarlatina.....	269	217
Measles.....	179	526
Typhoid fever.....	561	4,557
Scurvy.....	—	—
Erysipelas.....	175	255
Bronchitis.....	1,650	6,785
Pneumonia.....	2,081	5,397
Diarrhoea.....	248	2,741
Dysentery.....	53	992
Cholera.....	15	45
Angina.....	140	263
Croup.....	278	312
Puerperal affections.....	182	266
Total.....	6,770	29,450

Few opportunities occurred for observing any of the ingenious resources of field surgical treatment, as the wounded were speedily conveyed to Paris, where, it might have been fairly assumed, that they would be placed under more favourable circumstances than can ordinarily occur to troops on active service. But I fear that if any reliable statistics are ever produced, the death-rate will be found to have been very high, far in excess of that from the often ill provided provincial hospitals, even when superintended by less experienced surgeons, but where the surrounding air and ventilation were purer than could possibly prevail in a densely crowded city like Paris, where operations, even in ordinary times, are very unsuccessful, both in public and private practice. There was a great deficiency of operative surgeons, many of the physicians voluntarily undertaking such duty who had never previously so officiated. But it is very gratifying to be able to refer to the following statistical record, which I copied from the demonstrations of a lecture, delivered by an eminent French Professor during the siege, and which is, I consider, rather a triumph for British military surgery:—

A COMPARISON OF THE RESULTS OF OPERATIONS IN THREE PRINCIPAL ARMIES.

	American.	British.	French.
	Deaths.	Deaths.	Deaths.
Disarticulation at the shoulder joint	33·3	39·2	61·7
Amputation of the arm	24·5	21·2	55·5
Do. of the forearm	5·0	16·5	45·2
Disarticulation at the hip joint	100·0	85·7	100·0
Amputation of the thigh.....	64·0	64·4	91·3
Resection of the knee.....	57·1	55·1	91·3
Amputation of the leg	35·6	25·0	71·9
Total per centage.....	40·2	33·9	72·8

It was, also, satisfactory to have heard the honoured name of Paget spoken of continually, with as much esteem as it justly commands amongst his own countrymen.

The advantage of huts and tents for the treatment of wounded, in lieu of permanent buildings, was only appreciated towards the termination of the siege, chiefly from the excellent results obtained at the American ambulance, with which no other establishment could compare. It was organized and maintained by the American community of Paris, and consisted of a series of double longitudinal tents, subdivided in the interior into sections, the temperature of which, even during the coldest weather, was equally maintained by a subterranean plan of artificial warming, which was most satisfactory, and quite merits recognition. (See Plate.) This kind of hospital has one great advantage, not possessed by the system of wooden huts (unless jointed), viz.: of easy transport and capability of removal to fresh soil, whenever desirable—a most important consideration in military practice. A sketch of the different sections of this hut is appended; it was constantly visited by Officers of every department in the French Army, who approved highly of the details, but never practically adopted them. The great efficacy of picked oakum, as an admirable antiseptic application for suppurating wounds here attracted my attention, and I now employ it in my own hospital; but its merits are chiefly appreciated where bad odours exist from over-crowding; it is, besides, a mild stimulant for ordinary wounds. Our mother earth, too, besides being the best of all deodorisers, is also found to be a good application. Here is a sample of highly dried and finely powdered clay soil, which I also have employed with advantage, and which, at least, has the merit of being "dirt cheap." Of 200 admissions, most of which were for severe wounds, in the American ambulances, 20 deaths only occurred, which was a result quite startling to the ideas of French Surgery.

As to the statistical results of the siege, it is to be hoped that reliable information may some day be obtained; but it is a trite observation amongst French officials that *La statistique est l'art de se tromper au moyen des chiffres*, or, as Professor Huxley is reported to have said, "Statistics reminded him always of worsted work, because they could be worked to any pattern," which is no doubt true, when figures are manipulated too minutely. As no satisfactory system exists for the compilation of correct returns in time of war, I ventured, after much reflection, to devise a brief tabular form, for periodical use in hospitals, and I am glad to say its general adoption was approved of, both by eminent military and civil surgeons, several of whom tested its merits, and signified their approval of it to me. If such a simple document were definitely agreed upon, for universal adoption, as a distinct article of any future Geneva Convention, it would, I believe, establish an unity of action and accuracy of result for national returns from which comparative deductions, whether for military or scientific records, could with great facility be drawn. The duration of the siege was four months and twelve days, that of the bombardment, exactly one month; the losses sustained by which were 107 killed and 276 wounded; the former comprising

53 men, 23 women, and 31 children; the latter, 148 men, 92 women, and 36 children: or, a total of 383.

Frequent efforts were made during the siege to augment the funds of the different private aid societies by the organisation of musical and theatrical representations; and I must not omit to allude to one striking performance of sacred music, at the beautiful church of the Madeleine, in aid of the Press Ambulance; it was a requiem service, and happened to be on the very day on which the diplomatists at Versailles were discussing the possibility of an armistice; the music was by Cherubini, and was sublime, especially the thrilling portions of the "Dies Iræ and Resurrection." I have an intense admiration for sacred music, but never before listened to it, amidst such spirit-stirring surroundings. Call to mind the grand interior of that magnificent church, and then imagine it filled with a dense congregation of mourners, all draped in black, assembled to celebrate a memorial service, for some husband, father, or brother, of whom they had been recently bereaved. All the best vocal and instrumental artists of Paris, assisted at this mournful dirge, which, combined with the peals of the organ, produced an effect not to be described by such feeble powers as mine. The contrast seemed great on coming away, to hear the old familiar booming of cannon, blended now with the sharp *rappel* of the National Guard, and with the muffled drums of funeral parties.

From the date of Colonel Loyd Lindsay's arrival on the 12th October, with the munificent donation of £20,000 from the British National Aid Society, our position was much ameliorated, and many proffered facilities afforded us. A committee, of which Colonel Claremont was named president, with my colleague, self, and four Frenchmen, members, was appointed by the Minister of War for the distribution of the "Don Anglais." The result of the disbursement of the fund is appended (see Appendix), and from it you will understand the kind of articles considered necessary for sick and wounded Frenchmen, to whom many of the supplies which arrived in kind, after the armistice, were utterly unacceptable; hence one of the chief items of waste in the resources furnished from the English Society, and the necessity that some one acquainted with the tastes and habits of French soldiers should have superintended the purchase of those supplies.

You will have some idea of the unrestricted expenditure, sometimes adopted by the private aid societies of Paris, when I state that the purchase of vegetables alone for 30 wounded men at the ambulance of the Corps Législatif, cost no less than 2,500 francs, or about £100. Preserved provisions had not been sufficiently collected and stored prior to the investment; these, when prepared under efficient supervision, are valuable additions to the commissariat resources of an Army. Some of the preserved goods belonging to the stores of the American Ambulance, were part of the supplies of the war of secession; and I can vouch personally for their excellence of quality even after such a lapse of time.

I understand that a lecture has very recently been delivered here, on "The Geneva Convention of 1864, &c."* I will, therefore, only remark,

* See "Journal of the Institution," vol. xvi. page 206, *et seq.*—Ed.

that the siege of Paris hardly afforded a favourable opportunity for estimating its merits, as the sphere of operation was necessarily very limited. Many individuals undoubtedly escaped the obligations of military service, by assuming the red cross badge; but without the surveillance and discipline exercised by one central organized authority, it must always be difficult to obviate this, or other abuses connected with the institution of Volunteer Aid Societies. Their sphere of action, to be really efficient, must be absolutely subordinate to military control, thus preventing all merely independent action, or the existence of any jealous rivalry; especially on the battle field, a misfortune which I can testify by personal observation to have proved highly detrimental to the interests to the wounded. It is unreasonable to expect that any nation can maintain a sufficient number of medical officers in time of peace, for the demands of an active campaign, but its medical organization should be expansive and elastic enough to meet all requirements by enlisting the aid either of civil surgeons, as was effectually done during the Crimean war, or by the co-operation of private aid societies, as during the Franco-German War. The entire service, however, must be controlled and directed by a military president, recognised at the head-quarters of the Army. Such was the system adopted by the Germans in the appointment of Prince Pless, with the title of "Royal Commissary and Military Inspector of Volunteer Aid to the Sick and Wounded of the Army in the Field," who rejected all assistance which refused to conform to the rules which were laid down, and from his judgment and decision no appeal was permitted—a very wise and judicious arrangement. Unfortunately no such controlling power existed in Paris. Most of the societies indeed worked with zeal and energy, but without the necessary unity of action.

It has become a most serious consideration, with reference to the practical application of charitable aid from volunteer societies of neutral powers acting independently with the contending Armies, whether it does not tend to relieve the belligerent powers from the imperative obligation of providing adequately for the welfare of their own sick and wounded who must necessarily always be subject to a fearful amount of misery and suffering during the hours first succeeding a general action, when the relief and care of the wounded must be subordinate to the strategical plans of the General Commanding. The lists of casualties published after the different engagements were never held to be very reliable, nor could the percentage of losses to the troops actually engaged, be ever very accurately ascertained.

In fact the peculiar composition of the Army of Defence, rendered it very difficult to determine how many had fallen into the hands of the enemy as prisoners of war, and how many were missing from other causes, for, in fact, I may venture upon the assertion that General Trochu never possessed an army which he could rely upon, and he, without doubt, exercised a wise discretion in not endangering the defence of the city by making the sorties at an earlier date, or more frequently; although at the time he was much blamed by some of the public journals for what they were pleased to term inaction. He had a difficult task to control the restless spirit within the city, and at the

same time to maintain a successful resistance to the enemy without; nevertheless, he governed with wise and methodical discretion. He attempted in some degree to solve the problem as to how a rapidly improvised civilian element could be combined with regular troops, and how much of the regulation military exercises can be dispensed with, without compromising the discipline, necessary for even defensive operations; considerations which in my humble judgment, England, with its small standing Army, will do well to weigh carefully the importance of; and as to which the history of the defence of Paris may furnish some useful hints for guidance.

In connection with the reminiscences of the siege, allusion must be made to the organised system of balloon transport, of which latterly, a regular postal service was maintained with the outer world, but unfortunately with no return, except occasionally by pigeon despatch in cypher, indeed, we could scarcely realize the idea that letters would reach their destination so frequently as they appear to have done. The problem of aerial transit has hitherto baffled the ingenuity of men to invent any method for guidance and control, although many devices have been contrived by scientific experimenters on the mechanism of flight and motion, but if ever success should be achieved in this direction, a great advantage will be conferred on the resources of military operations.

As regards the nursing of the sick and wounded, this duty both during peace and war, is always efficiently performed in France by the *Sœurs de Charité*, who are considered as an integral part of the regular military and civil hospitals. They do not usually minister in the field-hospitals during war, but wherever they may be employed, they invariably display the same precise obedience to orders, and earnest zeal in the performance of their benevolent mission, partly due no doubt to the result of previous training, but chiefly probably to the absorbing influence and control of their religious vows.

The preparations for war stimulated the patriotic feelings of the ladies of Paris, who organized themselves under the direction of a Committee, loyally presided over by the Countess Flavigny, for the purpose of undertaking personally the nursing of the sick and wounded in the numerous private ambulance establishments. Most efficiently was this self-imposed obligation fulfilled by all ranks and creeds, each of them evincing the same cheerful self-denial, and enduring patriotic devotion throughout the entire period of the siege, and displaying the most tender solicitude for the suffering of the wounded, whose personal wants they supplied, often no doubt softening the heart of many a wounded soldier, by gently touching an inward chord, which thrilling through the departing spirit, may have wafted it to a happy eternity. "When pain and anguish wring the brow, a ministering angel thou,"—and the brightest, or possibly only bright page of any future history of the siege, must be that which describes the untiring practical sympathy evinced by the ladies of Paris, in the cause of suffering humanity.

We must all lament the sad misfortunes which have overtaken the military prestige and genius of such a great nation as France, which

relied on the success of her arms, from associations with the traditions of their past glories, forgetting that the art of war has developed into a science, requiring the application of high educational powers to sustain it. The causes of the repeated defeats of the French Army in the late war have been so fully and fearlessly described, in the French Chambers, by General Trochu, that it would be presumptuous in me to allude further to the subject, unless it be to express a hope, that France our former gallant ally, may profit by the lesson of her present temporary humiliation, and like the fabled Phoenix of old, re-appear from her ashes, not only a wiser, but a better nation.

In conclusion, let me not forget to acknowledge with grateful remembrance, the protection of a merciful Providence, by which I have been spared to relate my "experiences and reminiscences of the memorable siege of Paris," and also to tender you the expression of my best thanks for the patient hearing you have accorded to my feeble efforts.

APPENDIX.

PROPORTION OF CASUALTIES IN THE FOLLOWING IMPORTANT BATTLES:

	French losses.	Austrian Losses.
Austerlitz	14 per cent.	44 per cent.
Wagram	13 " "	14 " "
Moskowa	37 " "	44 " "
Waterloo	36 " "	31 " " (Allies)
Magenta	7 " "	8 " "
Solferino	{ (Franco-Sardinian) 10 } per cent.	8 " "

INSTRUMENTS FOR DETECTION AND EXTRACTION OF LEAD OR IRON.



The original porcelain probe devised by M. Nélaton for the wound of Garibaldi.

MODIFICATIONS DEvised BY SURGEON MAJOR WYATT.

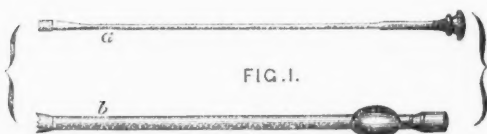


Fig. 1.—Porcelain probe and sheath for protection from blood in deep wounds.
a, probe; *b*, sheath.



Fig. 2.—Forceps extractor for fragments of lead or iron.



Fig. 3.—Magnet detector for iron or steel.

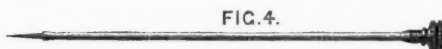


Fig. 4.—Gimblet screw extractor for bullets of any shape or size.

SOCIÉTÉ DE SECOURS AUX BLESSÉS MILITAIRES. ÉTAT GÉNÉRAL DES OBJETS
À LA DATE DU 28 JANVIER, 1871, SUR LE PROVENANT DU DON ANGLAIS.

Désignation Générale des Objets acquis.	Montant.		Observations.
	Brut.	Net escompte déduit.	
I. DENRÉES ALIMENTAIRES.			
Vin de Bordeaux.....	5,932,600		
— Bourgogne	2,336,490		
Mise en bouteilles	1,579,500		
Malaga, Zucco, &c.....	750,375		
Cognac et rhum.....	455,135		
	11,054,100		
Escompte	8,445	11,045,655	
Café.....	1,344,000		
Escompte	47,040	1,296,960	
Sucres .....	..	1,409,805	
Thés	109,385		
Escompte	3,830	105,550	
Chocolats .....	..	1,916,625	
Miel.....	..	108,950	
Compotes et confitures	600,900		
Escompte	23,110	577,790	
Biscuits, &c.....	..		
Fruits à l'eau-de-vie .....	..	
Tablettes pour potages	998,645		
Escompte	6,920	991,725	
Légumes conservés .....	..	330,975	
Arrowroot.....	..	51,250	
II. VIANDES.			
Vianades conservées	8,768,725		
Vianades sur pied .....	..	
Vaches	54 5,071,820		
Porcs.....	12 43,750		
Nourriture .....	.. 668,850	14,946,895	
III. VETEMENTS.			
Chemises de flanelle	7,726 4,282,425		
Gilets de flanelle	2,921 1,691,440		
Tricots de laine	606 44,090		
Paires de chaussettes de laine ..	10,608 1,391,550		
Caleçons	1,140 936,125		
Flanelles en pièces.....	574 80,460		
Escompte	882,290	8,668,225	
	154,775		
IV. DIVERS.			
Tabacs, cigares, and net	575,445		
Vinaigres et savons	200,375	775,820	
Total général.....	..	42,680,830	

ETAT BIHEBDOMADAIRE DES BLESSÉS ET MALADES, DANS L'AMBULANCE D — DE LA SOCIÉTÉ DE SECOURS AUX BLESSÉS

182

PERSONAL EXPERIENCES AND

AU

MOUVEMENT DU



Régions du Corps.	Restant sur le Dernier Etat.	Entrées à Nouveau.						Morts par					Evacués		Observations.
		Venant d'autres Ambulances.	Venant d'Autres Ambulances.	Blessures provenant	Amputations		Résections	Autres opérations.	Infection purulente.	Hémorrhagie.	Tétanos.	Maladies internes.	Sur d'autres Ambulances.	Autres destinations.	
					De balles.	De Armes blanches.										Immédiate.	Secondaire.
1 Contusions															
2 Plaies des parties molles sans fracture															
3 Plaies pénétrantes des yeux															
4 du cou															
5 de la poitrine															
6 de l'abdomen															
7 Plaies pénétrantes avec fracture ..															
8 Plaies perforantes des articulations															
9 Maladies internes															
Totaux															

Directeur de l'Ambulance de

OBSERVATIONS ON THE TEMPERATURE DURING TWO MONTHS OF THE SIEGE.

December 1870.				January 1871.			
Date.	6 A.M.	Noon.	Midnight.	Date.	6 A.M.	Noon.	Midnight.
1	27·5°	36·5°	25·1°	1	20·2°	24·2°	21·8°
2	21·8	28·2	25·6	2	20·5	23·0	20·7
3	30·7	37·4	34·8	3	21·7	27·1	20·5
4	27·0	27·2	20·5	4	16·2	19·3	14·0
5	19·6	26·6	27·1	5	11·2	19·0	33·8
6	25·7	31·1	27·7	6	34·6	40·0	36·6
7	27·2	32·0	30·8	7	37·4	43·1	36·0
8	29·3	32·0	32·0	8	32·0	36·5	33·1
9	31·5	34·6	26·9	9	30·1	32·0	30·8
10	22·2	27·1	24·4	10	29·9	32·0	29·7
11	21·7	23·0	24·9	11	24·7	27·1	24·5
12	26·9	36·7	37·7	12	18·8	25·1	24·4
13	37·6	41·0	44·6	13	26·1	32·0	24·4
14	49·1	51·8	51·5	14	19·0	24·0	18·8
15	45·5	55·0	54·9	15	17·5	19·8	31·2
16	44·2	48·2	43·5	16	34·1	39·5	37·5
17	41·8	46·2	44·5	17	38·8	43·1	36·3
18	37·7	45·1	43·1	18	35·7	41·0	34·8
19	44·3	46·6	46·3	19	34·1	37·5	34·5
20	46·8	48·2	39·2	20	32·0	37·9	34·7
21	31·4	28·5	21·9	21	34·5	39·5	35·6
22	18·5	19·7	17·2	22	36·2	40·4	35·2
23	15·5	21·1	14·9	23	35·6	40·5	35·8
24	10·3	16·3	12·5	24	33·7	36·3	34·1
25	11·0	20·4	21·0	25	32·7	34·1	32·0
26	20·2	26·8	18·2	26	28·1	30·9	26·1
27	16·1	16·7	18·6	27	19·3	25·9	25·6
28	19·0	23·0	22·5	28	24·3	27·9	28·0
29	20·7	26·4	16·6	29	27·3	31·1	30·6
30	15·4	20·1	22·2	30	29·4	31·5	30·5
31	20·1	22·3	20·3	31	29·9	34·4	31·2

LIST OF CURRENT PRICES DURING THE LATTER PART OF THE SIEGE OF PARIS.

	Francs.		Francs.
A turkey	190	1 lb. sausage of dogs	8
A goose	150	A pigeon	18
A hare	80	A box of sardines	7
A rabbit	60	A crow	6
1 lb. fresh butter	60	A sheep's brains	6
A fowl	50	1 egg	3
1 lb. ham	50	A rat	3
A cat	25	A sparrow	1
1 lb. sausage of horseflesh ..	8	1 apple	1½

LECTURE.

Wednesday, February 12th, 1873.

COLONEL SIR W. HENRY GREEN, C.B., K.C.S.I., F.R.G.S.,
in the Chair.

THE CENTRAL ASIAN QUESTION.—I.

By Captain F. TRENCH, 20th Hussars, F.R.G.S.

THE Central Asian Question which we have met here this day to discuss is, as I need hardly say, a very wide one, and has many sides, historical, political, strategical, and geographical, from which it may be discussed.

It would be difficult, however, more especially in a limited lecture like the present, to convey any very clear idea of the whole question, as it stands at the present day, without approaching it, more or less, from each of these points of view.

I propose, therefore, to divide my lecture into several parts, and deal, as far as possible, with each side of the question in turn, as it will thereby, I think, be rendered more convenient to discuss, and, I hope, more interesting to you all.

I will, then, begin with a brief historical sketch of the whole subject, from its earliest origin down to the present day. Long before the period that Russia, first emerging from political chaos and barbarism, began to take any prominent part in European politics, the idea of founding a vast Eastern empire held a foremost place among the various schemes that her rulers had conceived for their self-aggrandizement. Though before the end of the XVIIth century, her nominal conquests had reached the far eastern extremities of Asia, yet the encroachments of her early adventurers were confined to the northern portion of the continent. Peter the Great, following up the policy and projects of his predecessors, was not slow to grasp this idea in all its bearings, and to perceive how the geographical position of his rising empire with Asia, stretching to a boundless extent eastwards, favoured the development of such a scheme. He may be said to have been the first ruler of Russia who advanced his frontiers towards the more central portion of the continent, and who, by ceaseless encroachment upon his neighbours, smoothed the way towards the attainment

of his country's traditional aims. It was not, however, until the beginning of the present century that the idea of English supremacy in India being threatened by Russian invasion was first seriously entertained. Hence the "Central-Asian Question," *i.e.*, in plainer language, the question of the relative positions towards each other of Russia and England in Asia, may be said to date its birth from the year 1800. For nearly three-fourths of a century since then the present and future aspect of this question has been productive of endless argument and discussion, and from time to time, as new events have developed new phases in its aspect, it has led to no small difference of opinion, both among military and political writers.

Hence it will, I think, be as well in the following sketch to mark the varying phases through which this feeling of "Russophobia" has passed.

The main and prominent idea which has generally, at any rate up to a very recent period, been maintained by Russophobists and alarmists was that Russia had a fixed intention of gradually creeping up to a position from which she might invade, or at any rate have the power of invading India, if at some future time it might suit her to do so. And in fact, although it has been the fashion of late to deride such apprehensions as these as the illusions of a bygone day, yet they were natural enough some years ago, and may be said to have been fully justified by historical facts. On no less than four different occasions during the present century has an invasion of India by European Powers been either distinctly contemplated or planned.

The first of these was in 1800. In that year, during the short-lived alliance between the Emperor Paul I and Napoleon, while both were equally concerned in assailing the power of England, the latter, while yet First Consul, proposed a joint French and Russian invasion of India. The projected plan of operations was as follows:—It was agreed that 35,000 French, under Massena, should proceed to Ulm and descend the Danube to the Black Sea, from whence a Russian fleet was to transport it to Taganrog, that it was then to move to the Volga where it would find boats to convey it to Astracan, at which point it was to be joined by 35,000 Russians and 50,000 Cossacks, amply provided with artillery and horses, and the combined armies, consisting in all of 120,000 men, should then be transported across the Caspian Sea, from Astracan to Astrabad, where magazines of all kinds were to be established for its use. The march from the frontiers of France to Astrabad was estimated at 80 days, and 50 more were required to bring the allied forces to the banks of the Indus by the route of Herat, Farrah, and Candahar. So far, indeed, were the preparations for this scheme arranged, that the Hetman or Commander-in-Chief of the Cossacks, Count Orloff Denisoff, received orders to march on India with all the regiments of the Don. The rescript of the Emperor Paul with reference to this, is to be found in the Appendix to Milutin's "History of Suwarrow's Campaigns," published at St. Petersburg in 1853.

It is scarcely necessary to remark that such a scheme as this, feasible as it might possibly be at the present day, would at that time have been

utterly impracticable, and the fact that such a genius as Napoleon seriously entertained it, illustrates, I think, in a striking manner, the very crude ideas of the extent and geography of the countries of Western and Central Asia then prevalent in Europe.

Though subsequent events arrested the attempt to carry this project into effect, yet the idea which Napoleon had entertained as a General, was revived by him some seven or eight years subsequently, when he had become Emperor. In the year 1807, he proposed to the Emperor Alexander of Russia an invasion of India by a confederate army which should unite on the plains of Persia. With this view the French Emperor opened negotiations with the Shah of Persia, to induce him to join in the scheme, and intended to send his brother, Lucien Bonaparte, to arrange the details of the proposed campaign. In fact, it was no secret that the two Emperors intended in the course of the spring of 1808 to undertake an expedition against the British possessions in the East.

The details of this proposed enterprise, which were fully and elaborately arranged, are, I think, not very generally known. They are to be found in one of the secret articles of the Treaty of Tilsit, and were as follows:—

“ France and Russia, in conjunction, to march an army to the banks of the Indus.

“ Austria to allow the French troops to march through her territories, and to assist their descent down the Danube to the Black Sea.

“ A Russian force of 35,000 men to assemble at Astracan—25,000 regulars and 10,000 Cossacks—this force to be conveyed across the Caspian Sea to Astrabad, there to await the arrival of the French troops. Astrabad to be the rendezvous of the combined army, to contain the magazines for military stores and provisions, and to be the central point of the communications between France, Hindustan, and Russia.

“ The French division of 35,000 men to embark in boats on the Danube, and to sail down that river to the Black Sea.

“ On their arrival there, to proceed in transports, supplied by Russia across the Black Sea and the Sea of Azov to Taganrog, to pass thence up the right bank of the Don to the small Cossack town of Pèah Izbianca, and to march thence by land to the city of Zsaritsin on the right bank of the Volga, to embark on the Volga, and to descend to Astracan. From Astracan to embark on the Caspian for Astrabad.

“ On the junction of the French and Russians at Astrabad, the combined army immediately to begin its march, and to proceed by the cities of Meshed, Herat, and Candahar, to the Indus.”

“ The computed duration of the march of the French division from the place of embarkation on the Danube to the River Indus was 119 days.”

The next scheme for the invasion of India is one which, I think has scarcely ever been made public, or at any rate is known to comparatively very few. It was by an entirely different route, viz., by the *Valley of the Euphrates*, and was planned by Napoleon a year or two after the

Treaty of Tilsit. My authority for this statement is the late Major-General F. R. Chesney, who in a letter to me upon this topic written now more than three years ago, says as follows:—

“Mr. Vincent Germain, assistant to the French Consul at Aleppo, when I landed in Syria in 1831, informed me that he had been employed by the Emperor Napoleon in 1810, to make all necessary arrangements and inquiries with a view to the construction of rafts from the forests behind Marash, and by these means to descend to Bassorah, his proposed pivot of operations against India, after landing his army at the mouth of the Orontes.” He goes on to say, “From information given me in Syria, and now in my possession, there can be no doubt that Napoleon contemplated the invasion of India by the line of the Euphrates, as well as by the united operation with Russia from Astrabad.”

With regard to the scheme recently made public, and alleged to have been drawn up in 1854 by General Duhamel, it was of course only to be expected that at a time when there was war between England and Russia, either Power would endeavour to strike her adversary in any vulnerable point she could find. At any rate, it can scarcely be maintained that there is either in the conception of the project, or in the proposed method of carrying it into effect, anything that could be very surprising or unexpected to any one who is acquainted with the general history and tendency of the relations between Russia and England in Asia ever since the commencement of the present century.

Returning from this short digression, I will resume my narrative of the history of Russophobia, and the events which developed that feeling in England during the early part of the present century.

During the next few years subsequent to 1807, there were no signs of this feeling on the part of the Ministers of this country and their supporters. Their opponents, the Whigs, alone ever betrayed its existence, and then without any power to give it effect. It would take too long here to show how for some years the Emperor Alexander I, by the frequently oscillating offers of his alliance to France and England, contrived to gain the alternate connivance of each Power in his constant accessions of territory. At last his share in the final overthrow of the Great Napoleon made him in England the very idol of Tory adoration. Nothing asked by him was refused. Not only was Poland given up to him as his reward, but at the very same time the Treaty of Goolistan, brought about, strange to say, by British intervention, dictated terms of peace by which Persia ceded to Russia all her territories immediately south of the Caucasus, and the absolute dominion of the Caspian, which thenceforth became a Russian lake.

After the treaty of Goolistan, concluded in the year 1814, there was peace between Russia and Persia for ten or twelve years. It was, however, only surface deep, and in 1826 there was again war between the two states. A short campaign followed, and in 1827 Persia was again glad to sue for peace, and Russia was enabled to “rectify her frontier” at the expense of her humbled foe. Strange and incomprehensible as it may appear, the British Government was again so blinded to its own ulterior interests, that it not only did not prevent,

but actually smoothed the way to the ratification of this treaty, which bound Persia hand and foot to the Court of St. Petersburg, and advanced the Russian frontier not only nearer to India, but also to the Valley of the Euphrates.

From the date of the conclusion of this treaty (called the Treaty of Turkomanchai), Russia was obliged to cease from enlarging her territory at the expense of Persia by open and undisguised aggression inasmuch as owing to a change of Ministry in the English Cabinet, she felt that any such acts would be too jealously regarded by Europe in general, and that by England in particular any further open acts of spoliation would probably be followed by an appeal to arms. The Russian Cabinet, however, was at no loss for means of using the resources and influence of Persia for her own ends. Count Simonich, the Russian envoy at the Court of Teheran, did not cease to urge on and encourage Persia to transgress her legitimate boundaries eastwards, or to hint that she might indemnify herself for her losses in the West by fresh acquisitions in the East. Encouraged by these representations, Persia contemplated in 1832 the reduction of Herat, which had for some time previously refused to acknowledge allegiance to the Shah. In this scheme he was strenuously encouraged by the Russian envoy as for several reasons it was a desirable object to his Government to further the conquest by Persia of Herat. Reports and rumours soon found their way to India, to the effect that the co-operation and assistance of Russia would soon be apparent in this enterprise, and that a confederate Persian and Russian Army would advance upon Herat, and after its reduction threaten India. Surmises and rumours such as these, vague and untrustworthy as they might be, served to show the feeling prevalent in the public mind, and consequently Russophobia which had for some time been quiescent, now began again to disturb the political vision of English and Anglo-Indian statesmen. Meanwhile the Persian preparations for the expedition against Herat were pushed on with vigor, and in 1833 the undertaking was actually commenced, but was shortly afterwards, owing to the death of the Crown Prince, abandoned for a time. In 1837, however, in spite of the urgent representations of the British Minister at the Court of Teheran, the long contemplated campaign was recommenced in earnest at last.

For the last five or six years it had been evident that affairs in Central Asia had been taking a turn to which neither statesmen in England nor in India could afford to be indifferent or to overlook. It had long been obviously the true interest of Great Britain to preserve as far as possible the integrity of the Persian Empire, so as to keep it out of the hands of Russia, and free from her influence, in order to act as a barrier against any designs of encroachment eastwards which that Power might carry into effect, either directly, or by putting forward Persia to promote her own ends, and to mask their real significance. With this object in view, it was specially important to render British counsels at the Court of Teheran at least equal to those of Russia. The efforts, however, of the British Minister at the Court of Teheran to do this had signally failed, and when the long-threatened danger to Herat, which was then, as now, asserted to be the

gate of India, seemed really imminent, Russophobia, which had for some time been smouldering in the public mind, blazed forth into a flame, and for the next two or three years may be said to have been, both in India and England, at its height. Journalists and essayists discussed the question in all its bearings, and bringing forward formidable arrays of arguments and facts, were prepared to prove beyond contradiction that Russia was intriguing with the view of the ultimate invasion of India. It was the more easy to do this, as the peril seen through the misty haze of ignorance was greatly magnified, and was believed to be imminent.

Under these circumstances it was obviously the interest of the Indian Government to secure Afghanistan as a barrier against Russian encroachments. Accordingly it endeavoured to make an alliance with Dost Mahomed, but having bungled in that, it hit upon the notable expedient of endeavouring to replace Shah Soojah, a deposed and exiled King of Afghanistan, upon the throne. This attempt to force an unwelcome king upon the Afghans was the actual event which ushered in the Afghan war. Whatever may have been the ostensible pretexts for that undertaking, the primary cause of it was Russophobia, and the war itself eventually became nothing more than an expression of defiance against supposed Russian designs.*

For the next eight or ten years after the English Army finally evacuated Afghanistan we studiously avoided all intercourse with the country, and the feeling of Russophobia which had in 1838 risen to fever heat, had, in the absence of any events calculated to evoke it again, time to cool down and become dormant. In 1851, however, events occurred which showed that this feeling, though somewhat dormant in England of late, was still capable of being easily evoked. In that year Persia again meditated sending an Army against Herat, and had she done so, there is but little doubt that the city, owing to intestine dissensions, would have fallen an easy prey into her hands. But the English Cabinet was scarcely likely to suffer this. Accordingly, by means of a threat of the suspension of diplomatic relations, she compelled the Shah to sign a treaty, by which he pledged himself to evacuate the Afghan territory. Following close upon these events, came the Crimean war. Persia, seeing that anarchy still prevailed at Herat, and knowing that England at that time had her hands full,

* In the somewhat recriminatory correspondence on the subject of intrigues in Central Asia, which took place between the English and Russian Governments in 1839, Count Nesselrode wrote a despatch (which was by the Emperor's special consent laid before Parliament), of which the following is an extract:—"The Emperor of Russia," he said, "ne veut que ce qui est juste et ce qui est possible. Par ce double motif il n'admet point une combinaison quelconque dirigée contre la puissance Britannique aux Indes. Elle ne serait pas juste, parce que rien ne l'aurait provoquée. Elle ne serait pas possible, à cause des distances immenses qui nous séparent, des sacrifices qu'il faudrait faire, et tout cela pour réaliser une conception aventureuse, qui ne saurait jamais s'accorder avec une politique saine et raisonnable. Un seul regard jeté sur la carte devrait suffire pour dissiper à cet égard toute préoccupation, et pour convaincre tout homme impartial et éclairé, que nul dessein hostile envers l'Angleterre ne saurait diriger en Asie la marche de notre Cabinet."

seized upon the moment as favourable for reviving her old scheme of encroachment eastwards. Accordingly her troops in the beginning of 1856 actually occupied Herat. This occupation was immediately recognized by the British Government as a "*casus belli*," inasmuch as it was done in defiance of England, and in direct contravention of the treaty of 1852. At the conclusion of the war which followed, Persia was glad to purchase peace on the condition that she abandoned Herat, which she engaged to do, by a treaty concluded at Paris in 1857.

During the seven or eight years that succeeded the Treaty of Paris, Russophobia, strange to say, passed in England through a reactionary phase, so to speak, and may be said to have been succeeded in the mind of the majority of English politicians and the larger section of the English public, by the most complete indifference. And yet, indifferent as we generally seemed to be upon this subject, there were ever, to an attentive observer, indications sufficiently plain that a feeling of insecurity lurked beneath our apathetic exterior, and that England was not so easy upon this point as the principal organs of her press professed her to be. As almost year by year vague rumours of fresh Russian successes and further conquests reached us in England, the smouldering spark of mistrust again flickered forth into a flame, and the old cry, taken up first in India, and then re-echoed to England, would arise that England was sleeping while Russia was working, and that it became more and more evident that the invasion of India was the goal of her hopes and machinations. But the more influential portion of the press, representing the optimist opinions of the quietists, hastened to assure the English public that this was but a resurrection of the old bugbear that had so often frightened it before, and which all sensible and dispassionate men had long ago numbered with the theories and opinions which, though they were cardinal points in our fathers' political creed, we of a younger generation had been wise enough to discard. We were assured that Russia, in thus adding province to province, was merely yielding to the necessities of her position, brought into contact as she was with savage fanatical tribes; that the phantom of Russian invasion was an illusion of bygone days; that Russophobia was a disease chronic amongst Anglo-Indians; that England had in reality nothing to fear; and that even granting that there was ultimate danger to our Indian empire, she would do much better to await Russia's onset, sheltered by the range of the Himalayas, than by endeavouring, by the dubious aid of treacherous Asiatics, to thwart her progress while yet she was afar off. But there were many statesmen and politicians, and those too of a high stamp, and reflecting in their opinions much of what is most high-minded and best in English political feeling, who went much farther than this. Yielding to the impulses of a generous but certainly a misguided optimism, and priding themselves somewhat (though it may be unconsciously) upon the liberal and enlightened spirit in which they viewed this question, they professed to hail with pleasure the prospect of England's Indian frontier being one day continuous with that of Russia, as our difficulties in controlling and managing capricious and fanatical peoples would then be at an end, and we should be able to establish political and

commercial relations on a firm basis with a civilised Power. The advocates of this somewhat Utopian theory were in the habit of using rather grandiloquent language on the subject, which perhaps after all did not mean very much. They would adduce it as a happy dispensation of Providence, and a gain to the interests of humanity and the welfare of mankind, that the barbarous countries of Central Asia should be brought under a strong European Government, and that even Russian civilisation, though perhaps not of the highest type, should introduce law, order, and security, where, from time immemorial, there had been nothing but the most hideous oppression, cruelty, and misrule.

Reassured by such statements and arguments as these as to what was the true policy of England in this matter, viz., to bide her time, to consolidate her power in India, to do her duty towards her millions of Asiatic subjects, and meanwhile to let matters in Central Asia take their course, public opinion in this country was well content to dismiss the matter from its thoughts until again startled and disquieted by the news of some fresh stride of Russian annexation, when it has been content to be again comforted by the same assurances. It is curious and at the same time somewhat instructive to note how these phases of public opinion upon this topic seem to repeat themselves. At intervals varying from three years to ten, according to circumstances, public interest in the matter is aroused, and the whole question is revived and discussed by the press in all its bearings; then the discussion gradually dies out for want of fuel upon which to feed, and for two or three years, or perhaps for five or six, no one would imagine that such a question had ever existed at all. This is what happened in 1865, when the Russians took Tashkend; it happened in 1868, when they captured Samarcand; it is happening now again in 1873, when they have announced their intention of invading Khiva. In conclusion of this part of the subject, it may be remarked that Russophobia in England has in our time veered round so as to present quite a different aspect from that which it had in days of old. In the last generation, when this feeling was at its height, and when the nearest Russian outposts were hundreds of miles further from our frontier than at present, the ruling idea was that India might be threatened by a Russian army advancing through Persia, and Herat was accordingly always regarded as the key of the Anglo-Indian house. Nowadays, however, when the Russian frontier is close to Afghanistan, and when there is every prospect that that country alone will intervene between the British and Russian possessions, the idea of invasion, strange to say, has been abandoned as utterly irrational. In fact, it is allowed to vanish with the candid confession that it was, in those days, at any rate, a baseless fabric, a distempered dream from first to last. Instead of this, the general public has begun to acquire another and a far truer insight into the contingencies which the neighbourhood of Russia to our Indian frontier may entail. It is seen that Russia, by thus steadily pursuing her career of conquest, may gradually be able to creep up to a position so near to our frontier as to exercise at pleasure a disturbing force, and to render us uneasy for the tranquillity

of our dominions. This, I need hardly say, is a danger which we are bound, if possible, to prevent.

PART II.

Thus far I have dealt with the political history of this question. I will now pass on to a very brief geographical sketch of Central Asia.

The portion of Central Asia more immediately connected with the subject under discussion may be divided into three sections. Of these the southern section is Afghanistan, the south-western is Turkestan proper, in which may be included Russian Turkestan, and the three nominally independent Uzbeg Khanates of Khiva, Bokhara, and Kokand. Turkestan proper, as distinguished from Eastern Turkestan, comprises an immense area. It may be described in general terms as stretching from the Caspian Sea on the west, to Eastern Turkestan, or Chinese Tartary, on the east. For its northern boundary a line may be drawn almost from the southern shore of Lake Issyk-Kul, westwards along the River Chui, and then on to Fort Perovski, after which the boundary is marked by the Syr right up to the Aral Sea; thence the line may be continued due westward to the Caspian. Turkestan may be divided into four sections, viz., the three Uzbeg provinces of Khiva, Bokhara, and Kokand, and Russian Turkestan.

The western portion of this region appears to be a vast desert plain, unrelieved by any mountains, whereas in the east it is intersected by numerous mountain ranges. The most northerly of these are the Karatan and Boroldai mountains, while the most southerly are those whose melted snows feed the sources of the Oxus.

The two great rivers of this region are the Syr or Jaxartes, and the Amoo or the Oxus. The first of these, *i.e.*, the Syr, one of the largest rivers in Asia, is mainly formed by the confluence of three tributaries, the Naryn, the Gulishan, and the Jungol. Nearly half way from its source it enters the Khanate of Kokand, still retaining its character of an impetuous mountain stream. On emerging into the plain below Khojend, it becomes navigable, and remains so to a greater or less extent throughout the whole of its lengthened course. Its navigation, however, is still beset with many difficulties and drawbacks, in consequence of sandbanks, shifting currents, and the great shallowness of the water in some places. The Russians, however, have already made, and are still making great efforts to render it a convenient highway for their steamers into the heart of Turkestan.

The other great river of this region is the Amoo, or Oxus. It takes its rise in the Lake of Sar-i-kul, situate in the great plateau of Pamir, between 300 and 400 miles south of the Syr. It is 1,700 miles long, and has a large number of tributaries in the upper part of its course, but none whatever in the central and lower portion of it. It becomes navigable for heavy barges near Kunduz, has an average depth of 9 feet, and inundates its banks in June and August. Its width varies between 140 feet near Kunduz, and 3,000 feet near Bent. At its mouth it forms an extensive delta, dividing into a number of wide but shallow streams, mostly inaccessible to ships of any kind. The easternmost

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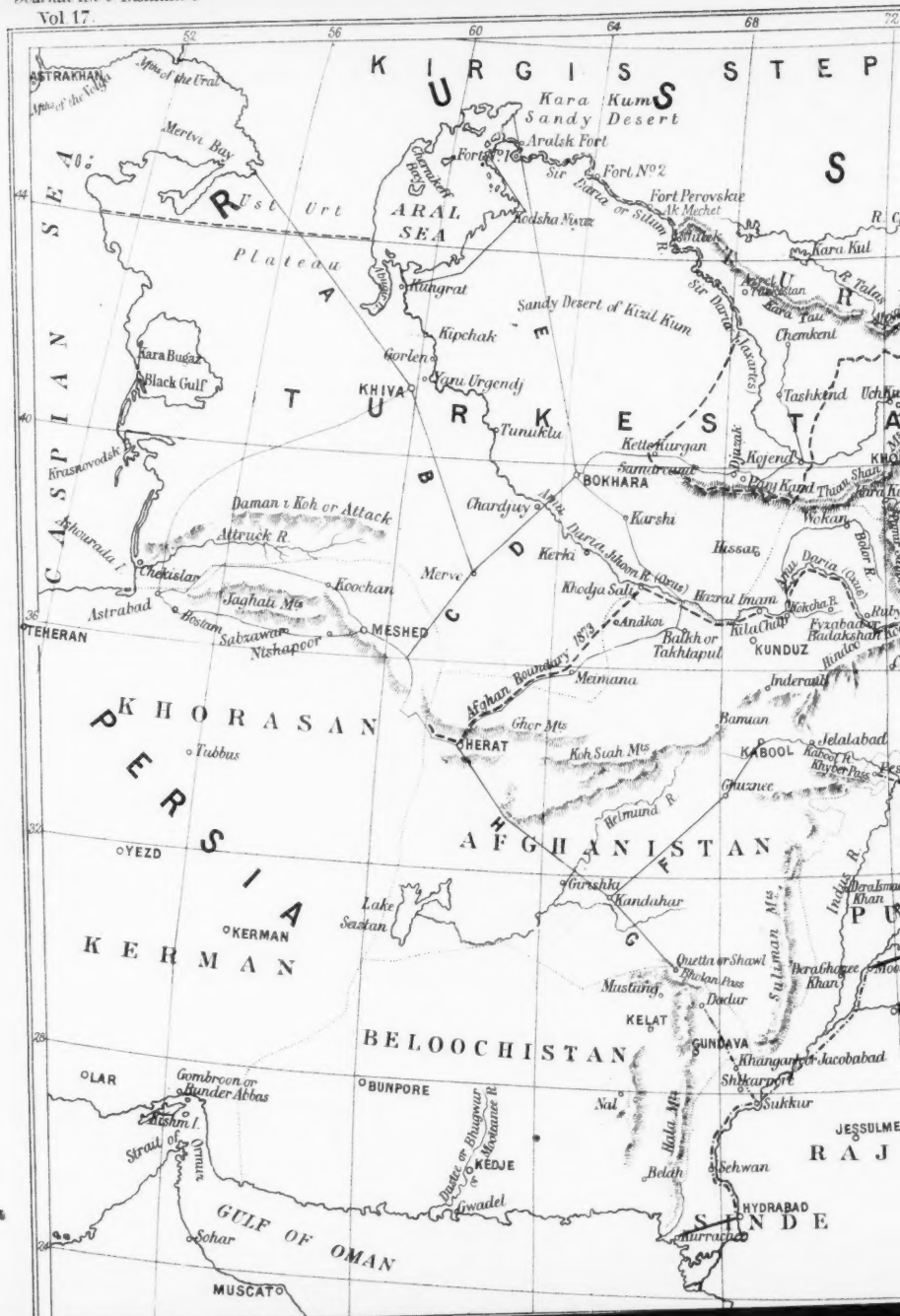
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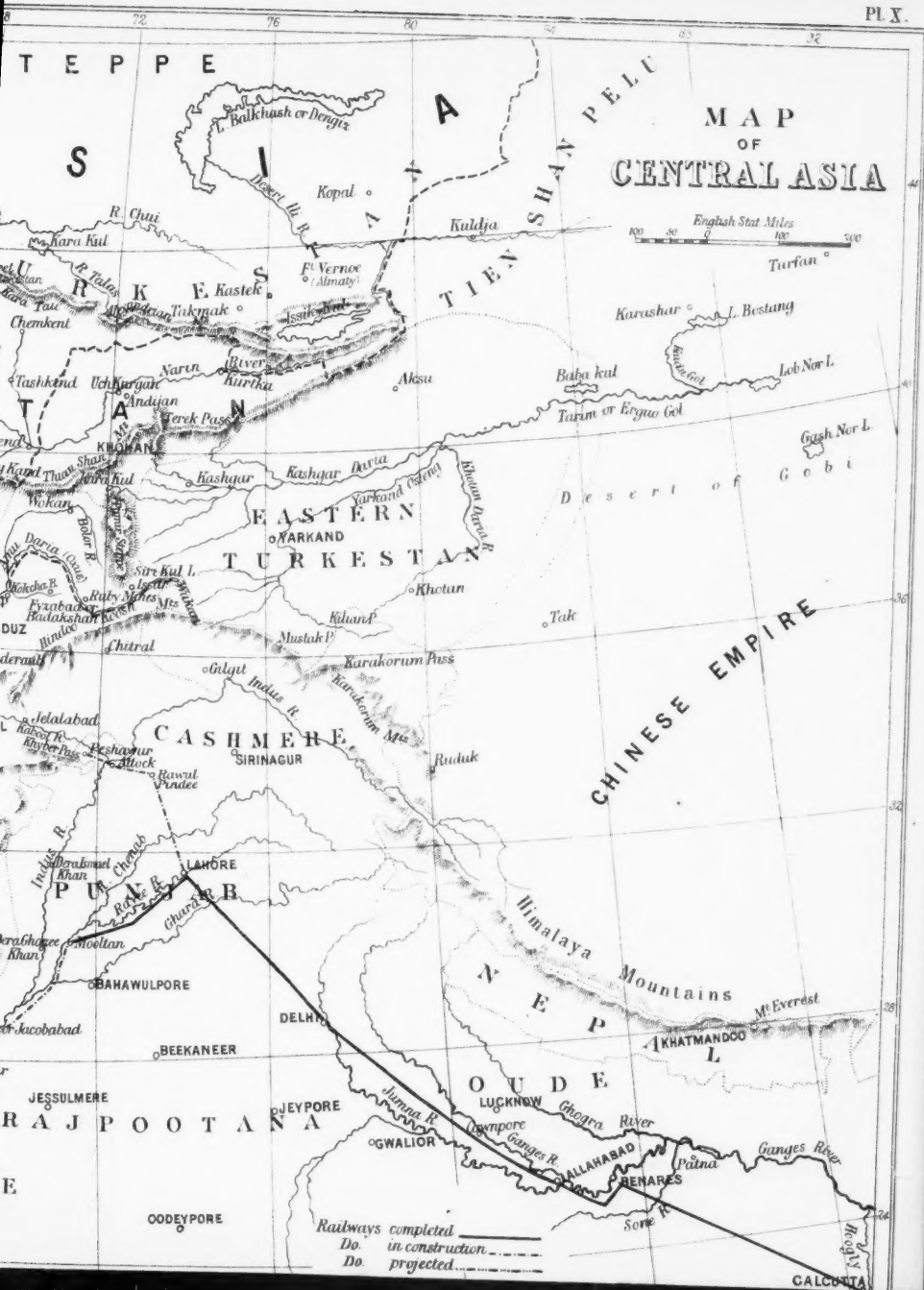
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arm of the delta, called Karabaila, and further down, Ulkan Darya, is the deepest and the most navigable of them all, but even this has only an average depth of several feet along a considerable portion of its course, and in the high-water months of June and August, converts the whole country into a lake, where every trace of the ordinary channel is lost in a wilderness of reeds and swamps. The Amu Darya freezes only in January, is flanked by numerous canals, and is famous for the taste and salubrity of its water. There being no wood on the banks of the river, steam navigation would entirely have to depend on coal depôts, to be formed at fixed distances. The Amu discharges its water into Lake Aibugir, which, in the high-water months, coalesces with Lake Aral, but is ordinarily separated from the latter by a broad isthmus, along which a caravan road lies. There are no more than nine ferries all the distance between Kundush and Lake Aibugir, and no bridges further down than the Ak Serai*.

With regard to these two rivers, which play so prominent a part in the geography of Central Asia, it may be observed as a remarkable fact, that the banks of both of them are nearly uninhabited, as the principal centres of population, with the sole exception of Khojend, are at some distance from their banks. This circumstance is attributed by Russian writers to the plague of hornets, mosquitoes, and other insects generated in the morasses and swamps that are to be found on each side of their banks throughout a great portion of their course.

Though, as will be seen from a glance at the map of Central Asia, throughout a great portion of the regions comprised under the name of Turkestan there extend (more especially towards the west, in which the means of irrigation are more scanty) vast sandy deserts and barren steppes, such as the deserts of Kizil Kum and Batak Kum, yet this is by no means the case as regards the whole area of the three Khanates. There are certain large districts in these regions which yield to none in fertility, and in the general wealth and variety of their productions. M. Vambery indeed goes so far as to assert that "it might be difficult to find in Europe, flourishing as it is in every blessing, territories that "would rival the more fertile portions of these Khanates."

PART III.

Having completed this somewhat cursory geographical sketch of the regions which are the subject of discussion on the present occasion, I will now pass on to a brief narrative of the events that have within the last few weeks brought the affairs of Central Asia upon the *tapis*.

In the month of November last, in consequence of numerous outrages and insults committed by the Khivans against Russian subjects and the Russian Government, and other ample provocation, an expedition under Colonel Markosoff was sent against Khiva. This expedition turned out disastrously; for the Russian Force, after nearly reaching Khiva without meeting with opposition, was surprised and forced to

* For a more full and accurate geographical description of these regions than can be given in a limited lecture like the present, the reader is referred to the "Russo-Indian Question," pp. 32—47. Macmillan and Co. 1869.

retreat. I need hardly say that the Russians can no more afford to be beaten in Turkestan, than we could afford to be beaten on the banks of the Suttlej. Consequently, a regularly organised expedition upon a tolerably large scale is now being prepared with a view to decisive operations in the coming spring. The projected plan of campaign as at present proposed is as follows:—Three Russian columns will march against Khiva. One will start from Krasnovodsk of about 3,000 men and 20 guns, one from Djuzak of 5,000 men and 10 guns, and one from Orenberg consisting of 2,000 men and 10 guns. The column from Djuzak will cross the Oxus at Tunuklu, the point where the boundary of Khiva meets that of Bokhara. The column from Krasnovodsk, it may be remarked, will be composed entirely of troops drawn from the army of the Caucasus, which according to the most recent accounts is 167,000 strong, of which about 100,000 can be placed at once on a war footing. The Russian Government have been careful to represent to the English Cabinet the smallness of the forces they intend to send, viz., some 8,000 men, as a proof that they have no intention of permanently occupying the country. I do not think, however, that this goes very far to prove any such intention, for in all military operations in regions like those of Khiva, you are confronted with this choice of difficulties, viz., that if you take a small army with you, you are beaten; if, on the other hand, you take a large one, you are starved. Whether the Russians will eventually keep Khiva it is impossible at present to say. Of course, every one who has watched the course of affairs in Central Asia, must have known that its ultimate annexation, or at any rate its complete subjection was merely a question of time. I think it is most probable that Russia will deal with it as they have done with the greater part of Bokhara, that is, that they will maintain a kind of protectorate over it, and leave to the ruler the somewhat troublesome task of governing his own fanatical subjects. But, however this may be, I think that, looking at the geographical position of Khiva, there can be no doubt that Russia will retain at any rate certain strategically advantageous points in the country, so as to secure for herself a permanent right of way through it. The Khanate at present separates Russia's isolated newly-acquired territories in Bokhara and Khokan from the Caspian. The River Oxus, moreover, runs through the centre of it. At present the quickest and most practicable route between Turkestan and European Russia is across the Caspian and Aral Seas, and thence up the River Syr. The water-communication, however, by this route, is broken by the wide intervening plain of the Ust-Urt, between the Caspian and Aral Seas. It is, moreover, very circuitous and slow. If, however, the Russians have a permanent right of way through Khiva, they will be able to open up a far shorter route to their outlying dependencies in Turkestan. How great its advantages will be are here apparent, when I state that by adopting it, Russian troops proceeding from the eastern shores of the Caspian to Samarkand will save about 700 or 800 versts by going through Khiva, instead of by the circuitous route up the River Syr. It may be mentioned that Krasnovodsk Bay, the point where the new route is to be opened out, is nearly exactly opposite Bakou,

on the western shore of the Caspian, which was originally meant to be the eastern terminus of the Poti and Tiflis Railway, destined to connect the Black and Caspian Seas. This railway is already open as far as Tiflis.* When these works are finished and in working order, it is obvious that any troops in Southern Russia will be rendered easily available for service in Central Asia. That the Russians have long contemplated getting possession of a more direct route to the Oxus is evident from the fact that more than three years ago the "Invalide Russe" discussed the measures necessary to secure its safety. The "Moscow Gazette" also four years ago spoke of the new proposed route as follows:—"Now that our merchants have been permitted to trade and settle in Bokhara, they are sure to abandon the roundabout route by the River Syr, and to effect direct communication by the Amu Daria and the Krasnovodsk Bay of the Caspian Sea."

There is yet another way in which the possession of the Khanates of Khiva and the Oxus may possibly be of the greatest advantage to Russia, which is as follows:—

There is very little doubt that in old times the River Oxus flowed into the Caspian Sea. In a very interesting paper, written some five or six years ago for the Russian Geographical Society and translated by Mr. R. Michell, it is stated that many recent travellers who have visited the eastern shore of the Caspian Sea, affirm that they have seen in Krasnovodsk (or Balkan) Bay the embouchure and bed of a large desiccated river, in some places 100 fathoms wide and 15 deep, which is considered to be undoubtedly the mouth and channel of the dried-up course of the Oxus or Amu. The river is said by the inhabitants of those regions to have been diverted by the Khivans more than a hundred years ago, and at present there is a large dam near Kohne Urgendj which prevents the waters of the Oxus from pursuing their course to the Caspian. Hence the possibility has often been discussed in Russia of destroying this dam, and turning this great river by its old bed again into the Caspian, and then making the stream navigable throughout. If Russian engineering skill could succeed in effecting this, it will be seen at once how great would be the strategical and commercial advantages which such a work would secure. Russia would then have water carriage, and that by a far more direct route than at present, for her troops and her merchandise from the heart of her European provinces down to the very gates of Hindostan, viz., from the point where the Volga becomes navigable to Kunduz in Afghanistan, where the Oxus begins to be navigable.

From several translations of Russian documents which I have seen, I think there can be little doubt that an attempt will be made to carry this great project into effect, and I believe that sanguine hopes are entertained of its ultimate success.

Even supposing the present course of the Oxus is allowed to remain undisturbed, the possession of the Khanate of Khiva is necessary in order to allow them to navigate it without hindrance throughout its whole course. In examining the future aspect of the question, it is

* It has lately been decided that this railway should not be extended from Tiflis to Bakou, on account of the great physical difficulties of the route.

as well to keep this contingency in view, viz., that of the Russians having some day a direct waterway from the Caspian right into Afghanistan—the more so, as I think it is a point to which public attention has as yet not been drawn.

I will next say a few words about the fort of Tchickislar, and the valley of the Attreck, of which during the last few weeks we have heard so much. First, as to the position of this fort. It is not marked upon any of the English maps which I have seen, but according to a Russian map and plan of the place which I was shown a few weeks ago, Tchickislar is on the right, *i.e.*, the northern bank of the river Attreck, and certainly not more than 10 miles from its mouth, if it is so much. Secondly, it may be stated that its occupation by Russian troops is no new event, as seems to be generally supposed. In 1859 a Russian force, under command of a Colonel Dandeville, was sent to attack the village and fort of Tchickislar. This force having landed and taken the place from the Turkoman garrison who held it, occupied it for a short time. In the Russian work, from which this account is taken, the expedition is alleged to have been sent at the request of the Persians, with the ostensible object of releasing a number of Persian captives enslaved by the Turkomans. When this had been done, the Russians evacuated the place, and re-occupied it in 1871, evidently with the primary object of having a *point d'appui* from which to attack or keep in check the Khivans from the south, in their contemplated operations against Khiva. That this position was useful to them in this respect is evident from the fact that in the recent unsuccessful expedition of the Russians against Khiva, one of the Russian columns started from Tchickislar, which was in fact its base of operations. It is no secret, moreover, that Russian boats and small ships have often ascended the Attreck for a short distance, more especially some 10 or 12 years ago, when a survey was being made of the eastern coasts of the Caspian.

With regard to Tchickislar being on Persian territory, supposing the northern frontier of Persia to extend as far as the Attreck, instead of only to the Goorgan, as has often been alleged, the fact of the place being on the northern bank of the Attreck, would seem to show that it can scarcely be said to be situated upon territory to which Persia has any shadow of a claim. The question as to whether it is or was ever Persian territory does not, however, affect in the smallest degree the main point of importance involved, viz., that if the Russians are free and able to navigate the Attreck for any distance up stream, they would be able, in case of need, to transport troops and military stores by water carriage somewhat nearer to Herat than it has hitherto been considered possible for them to do.*

PART IV.

I will now go on to give a short account of the diplomatic correspondence which has recently been exchanged between the Govern-

* Since this lecture was given, it has been ascertained that the Attreck is not navigable for ships and boats of any size, except for a few miles just above its mouth.

ments of England and Russia concerning the proposed line of demarcation, or "intermediary zone," as it is becoming the fashion to term it, that it is proposed to draw on the north of Afghanistan. This correspondence may be briefly summarised as follows:—

In the year 1869, the late Lord Clarendon, in consequence of the steady advance during 1868, of Russian conquest in Central Asia, and in a south-easterly direction to Bokhara, Samarkand, and Karshi, thought it expedient to address the Cabinet of St. Petersburg on the subject of Central Asia, and suggested, that in order to prevent future political complications, some line should be drawn, beyond which Russia should not extend her career of conquest. In reply, the Russian Government naturally enough expressed its readiness to recognise an Afghan frontier, as of course nothing would suit her better than a line of demarcation of this sort drawn so near the Anglo-Indian frontier. Hereupon a correspondence ended between the two Governments, and though it was admitted by both sides to be desirable that the matter should be definitely settled, no agreement was come to. In the course of the negotiation which followed, the Russian Government promised to furnish the late Lord Clarendon with a definite exposition of its views upon the matter. The subject then remained in abeyance for a time. In October last, however, Lord Granville re-opened the correspondence, and reminded the Russian Government that it had not yet received the long promised document explaining the wishes of the Cabinet of St. Petersburg upon the proposed boundary line. At the same time he explained at some length the views of the English Government, and finally proposed the northern limits of the neutral territory, so that the provinces of Badakshan and Wakhan should be included therein. With regard to the rest of the line, he proposed that it should strike the Oxus at Khojah Salih, midway between Termez and Kerki, and run thence to the Persian frontier. In reply Prince Gortschakoff announced his willingness to agree in the main to the line of demarcation proposed, with the single exception of the provinces of Badakshan and Wakhan, which, for alleged political reasons, the Russian Government did not think ought to be included in the intermediary zone. With this despatch Prince Gortschakoff also forwarded an historical sketch of the provinces referred to, viz., Badakshan and Wakhan. At this stage of the negotiation His Imperial Majesty the Emperor of Russia, hearing of the great distrust and alarm created in England by the contemplated expedition against Khiva, and the alleged occupation of the Valley of the Attreck, sent over Count Schouvaloff, in order to re-assure the English Government as to the intentions of Russia in Central Asia, and to allay the anxiety that evidently existed in the public mind. Amongst other civil and polite things which the Emperor's Envoy is reported to have said, was, that his Imperial master was determined in the pending settlement of the precise boundaries of the proposed intermediary zone, that there should be no cause of difference between the two countries, and that he was confident that a final arrangement might be arrived at at an early date.

Upon this footing the negotiation at present seems to rest, and a

very unsatisfactory footing it is; a point upon which I think all will agree who have considered the actual circumstances of the case.

The first thing to be noted is, that Count Schouvaloff did not, as has been generally supposed, come over to England in consequence of any communication addressed by the English Government to the Government of St. Petersburg, but because it was seen that the public mind in England was thoroughly alarmed. It is evident moreover, that these districts which the Russian Government is so anxious to be able to clutch when she is ready to take them, and which our Government are so anxious to keep out of her clutches, are very important in some way or other to both sides. It will be well, therefore, to point out in what their importance consists. This I will now proceed to do, in as few words as possible.

The provinces of Badakshan and Wakhan may be said to be the most northerly outlying dependencies of Affghanistan—in fact they form the north-east corner of the region that is generally included under that name, and are conterminous on the north with the Khanate of Khokan.

The western corner of these provinces almost touches the present Russian boundary in Turkestan. On the east they are bounded by the Bolor Dag mountains, a ridge traversed by several practicable passes intersected by small tributaries of the Indus. Both provinces are very little known to European travellers, and indeed Wakhan may be said to be almost a *terra incognita*, as it is quite unexplored.* Badakshan, however, is well known to be one of the finest countries in Asia, and is certainly one of the richest. It produces every description of fruit, is renowned for its coal and ore, and boasts a greater variety of jewels than even India or Brazil. The wealth and beauty of the capital, called Faizabad or Badakshan, was formerly a favourite theme of Oriental poets, but the city is in ruins now.

Though the rulers of Affghanistan have generally claimed sovereignty over these provinces, yet the inhabitants, as a rule, own allegiance in reality to none but their own virtually independent chiefs. Shere Ali, however, the present ruler of Affghanistan, has succeeded to some extent in making good his claim to their allegiance, for in 1869 many of these rulers, in the presence of Lord Mayo at Umballa, swore fealty to him and to his throne. It is worthy of remark that Peter the Great was recommended by one of his envoys 150 years ago, to take possession of this very province of Badakshan. Indeed, that Monarch appears to have been served by some Ministers as daring in their conceptions as himself. An Italian named Flori Beneveni, the Russian envoy at the Court of Bokhara in 1724, when making a report to his Imperial master in 1724 on the wealth of Badakshan and other regions of the Oxus in valuables and precious stones, finished his report with these words, "My last word to your Imperial Majesty is this, if you wish

* For a most able and exhaustive description of these regions, so far as they are known, see "An Essay on the Geography of the Valley of the Oxus," by Colonel H. Yule, C.B., published as an introduction to "A Journey to the Source of the River Oxus," by Captain John Wood, Indian Navy. New Edition. John Murray, Albemarle Street, London. 1872.

"to confer a permanent benefit upon your exchequer, you might easily do so in these regions. Your power would carry everything before it, and be a sufficient reason in itself." After this short digression I will resume the thread of my argument.

3rdly. It is evident that the English Government made no remonstrance, as has also been generally supposed, to Russia as to the contemplated expedition to Khiva. And indeed notwithstanding all that has been recently alleged on the matter, it is difficult to see how, looking upon the real facts of the case, any remonstrance upon this score would, with any show of reason or of justice, have been addressed by England to Russia. In the first place, Russia has doubtless received ample provocation from the Khivans, and has therefore a perfect right to exercise the right of retaliation upon her foe; secondly, if when Russia, in 1868, took possession of Samarkand and other towns in the Khanate of Bokhara, which are hundreds of miles nearer to the frontier of Afghanistan than any towns of the Khivan Khanate, England held her peace, and showed thereby that she deemed it no concern of hers, it would indeed have been straining at a gnat and swallowing a camel if our Government had raised any outcry when, with good and ample reasons, Russia makes an attack upon Khiva. In fact, the Government by so doing would at once have placed itself in a false position.

I will now proceed to point out the probable future difficulties of the position in which we shall probably find ourselves placed. It is evident that in proposing to Russia a line beyond which her career of conquest shall not extend, that we have given her direct encouragement and tacit permission to advance up to that line, a hint which, we may be sure, she will not be slow to avail herself of when it suits her to do so.

Again, our avowed intention of defending Afghanistan implies a permanent alliance with the reigning Ameer of that country, an engagement which, as all who are acquainted with Indian history will admit, entails no slight responsibilities.

Next, with regard to the power of disturbance which will be possessed by Russia. It is clear that we cannot hope to escape with impunity by reason of the terms which we have prescribed. When we have virtually, with the exception of the intermediary zone, partitioned Central Asia with Russia, and have said to her, "thus far shalt thou come and no farther," we must be prepared to act with promptitude and decision the moment she does come farther, and to repel her by force. Hence it follows that Russia will be able at any time that suits her purpose to compel us to go to war by simply crossing the line of demarcation which we have drawn; in fact, we shall have to defend a far distant frontier as we now defend the frontier of the Punjab. If Russia wishes to find a pretext for meddling in the affairs of Afghanistan she will never have very far to seek for it. For what is the condition of that country?

From time immemorial the nemesis of Mahomedan polygamy has thrown its curse over the land, and rival members of the reigning house, sons of the same father but by different mothers, have ever, when opportunity presented itself, endeavoured to gain possession of

the throne. As a natural consequence the country, whenever the ruler for the time being dies or is deposed by one of his rivals, is torn with intestine dissensions: murders, insurrections, anarchy, and bloodshed are of frequent occurrence. Any bold, daring adventurer who aspires there to political power, would at any time find himself backed by thousands of turbulent followers, who would be ready at any time to take advantage of any circumstances that would be likely to forward their schemes of self-aggrandisement. Such is the country which it is proposed to convert into a neutralised buffer between England and an aggressive intriguing Power like Russia. Who that knows anything of the Affghans, and indeed of Orientals in general, can doubt that as soon as Russia touches Affghanistan there will always be a Russian party in the State ever looking hopefully to Russia for encouragement and support, ever breathing defiance to England and the reigning Ameer of the country, whoever he may be. Not the least remarkable point in this state of affairs is the fact that not only do we let Russia come up to the borders of Affghanistan, but we actually propose that she should do so. It is said that all parties in Russia are anxious that the arrangement proposed by England should be accepted. There is but small reason to doubt that, for people generally are satisfied when they have got exactly what they want. This arrangement will, in fact, enable Russia to make rapid strides southwards by treaty instead of by force of arms. Sooner or later it was of course inevitable that some agreement should be come to between the two Governments, but virtually to invite Russia to make her future frontier in Turkestan conterminous along its whole line with Affghanistan, is to ask her to come nearer than is either pleasant, agreeable, or safe. It has long been foreseen that the time must come when England must make a stand and speak out her mind bluntly upon the subject, and the settlement of the question will in no way be facilitated by concealing the grave issues at stake, or by postponing the time for decisive action in the matter. I say this, because there seems to be in some quarters a disposition to quiet matters over in this important question, to prophesy smooth things, generally to hush the subject up, and to represent that it is likely to be soon settled once and for all.

I repeat then, that if Russia is enabled by treaty to creep up any nearer to our Indian frontier than at present, she will have got all she wants, and the idea will go forth upon the continent, as well as in Asia, that we were willing to accept any arrangement sooner than run the risk of a quarrel. It would surely be more dignified for a country like England to reflect that nothing worth having can be won, nothing can be retained without corresponding danger and risk, and therefore, with set purpose steadfastly to accept the fact, that the peace and possession of India are important enough to warrant our facing and braving the responsibilities inseparable from the guardianship of such a prize.

Such being the present aspect of affairs, it is certainly very strange to read the opinions expressed of late by some of the leading organs of the press, who believe, or at any rate affect to believe, that the Central-

Asian Question has for the present been set at rest. The truth is, that the real difficulties of the question are just about to begin. Whichever course the Government may pursue is beset with difficulties, but to let Russia come any nearer to India than at present, is the worst course of all. When we have permitted her to establish herself on the borders of Afghanistan, she will be in a better position than ever to carry one of her most obvious manœuvres into effect, viz., that of neutralising or checkmating the opposition of England in any project she may wish to render an accomplished fact, by maintaining a threatening attitude in Turkestan.

In conclusion, those indeed must be sanguine politicians who can persuade themselves that the Central Asian Question can be lulled to rest, that it will cease to exist, or that in some unexplained fashion it will solve itself. On the contrary, as years pass on, and as Russia is enabled to open out new and improved communications with the as yet isolated provinces she has just acquired in Turkestan, the importance of the question must ever assume larger proportions, and the proximity of Russia to India must ever be one of the most awkward political complications with which English and Indian statesmen will have to deal. In the future as heretofore, England's difficulty will be Russia's opportunity. It was so in 1870, when she tore up the Black Sea Treaty. It was so in 1837, when she instigated Persia to attack Herat, and finally persuaded her to carry the attempt into effect in the very year when there was a good prospect of the military forces of England being required in an opposite part of the world, viz., to quell a threatened insurrection in Canada. During years of peace, and so long as any designs which she may have in Europe or in Asia are not thwarted or interfered with by England, Russia will probably in no very active way trouble herself with India and its concerns. But, whenever any question of European diplomacy arises in which the interests of the two countries are directly opposed, or are likely to clash, her power to stir up mischief or to threaten our actual or political frontier, will have to be taken into account, because the difficulty which has so long been looming in the future will then have to be regarded as ever present and permanent. The fact is an unpalatable one, but it is useless to disguise it. Hence on all accounts it is advisable at once to look this danger boldly in the face, and to realise the risks and contingencies to which our position in India may in the future be exposed. By adopting such a course we shall be less likely to lose sight of the fact that in such a question as this professions of mutual confidence, esteem, and good-will between two Cabinets cost just as little as they mean, and we shall on this account be scarcely disposed to risk any of our material interests to a hollow confidence in the permanently peaceful intentions of a rival and ambitious Power.*

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the throne. As a natural consequence the country, whenever the ruler for the time being dies or is deposed by one of his rivals, is torn with intestine dissensions: murders, insurrections, anarchy, and bloodshed are of frequent occurrence. Any bold, daring adventurer who aspires there to political power, would at any time find himself backed by thousands of turbulent followers, who would be ready at any time to take advantage of any circumstances that would be likely to forward their schemes of self-aggrandisement. Such is the country which it is proposed to convert into a neutralised buffer between England and an aggressive intriguing Power like Russia. Who that knows anything of the Affghans, and indeed of Orientals in general, can doubt that as soon as Russia touches Afghanistan there will always be a Russian party in the State ever looking hopefully to Russia for encouragement and support, ever breathing defiance to England and the reigning Ameer of the country, whoever he may be. Not the least remarkable point in this state of affairs is the fact that not only do we let Russia come up to the borders of Afghanistan, but we actually propose that she should do so. It is said that all parties in Russia are anxious that the arrangement proposed by England should be accepted. There is but small reason to doubt that, for people generally are satisfied when they have got exactly what they want. This arrangement will, in fact, enable Russia to make rapid strides southwards by treaty instead of by force of arms. Sooner or later it was of course inevitable that some agreement should be come to between the two Governments, but virtually to invite Russia to make her future frontier in Turkestan conterminous along its whole line with Afghanistan, is to ask her to come nearer than is either pleasant, agreeable, or safe. It has long been foreseen that the time must come when England must make a stand and speak out her mind bluntly upon the subject, and the settlement of the question will in no way be facilitated by concealing the grave issues at stake, or by postponing the time for decisive action in the matter. I say this, because there seems to be in some quarters a disposition to quiet matters over in this important question, to prophesy smooth things, generally to hush the subject up, and to represent that it is likely to be soon settled once and for all.

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PART V.

The strategical side of the Central Asian Question is an interesting study, and one on which a great deal might easily be said. In order, however, to discuss it at length, and in a manner that would be satisfactory to myself and to my audience, would make far greater demands upon our time than it would be possible on the present occasion to concede. I must therefore fain content myself with dealing very briefly with this portion of my subject.

When our present Indian frontier on the west and north-west was fixed, there was no prospect of the proximity to it of a strong European Power. Strategically, I suppose no one would maintain that it could not be much improved, but hitherto it has served our purpose well enough. Many schemes have from time to time been propounded for its rectification and improvement, ranging in scope and aim from a slight advance beyond our present position to the occupation of Candahar. Of these schemes, however, there is at present only one, which I propose on the present occasion to notice. It was first suggested some years ago by that sagacious and clear-sighted soldier, General Jacob, and it has again been very recently brought forward in an able and interesting pamphlet by our Chairman, Colonel Sir Henry Green,* who has kindly consented to preside upon the present occasion, and who in consequence of his having been long in high political employ upon the Western frontier of India, is thoroughly acquainted with the subject. I refer to the occupation of Dadur and Quettah in Beloochistan, belonging at present to the Khan of Khelat. The importance of these two places lies in the fact that they command both sides of that important avenue into and out of Western India, viz., the Bolan Pass, which is the only practicable route by which an army could, on the side of Persia and Beloochistan, successfully advance against India. The town of Dadur on the Indian side of the Bolan Pass is only about 60 miles from our present frontier, and Quettah is about 70 miles more. If in addition to this occupation of the Valley of Quettah, the town of Dadur were joined to the Indian railway system at Sukkur on the Indus, the strategical advantages that would accrue from this measure are obvious. We should hold the most important and practicable pass into Western India, and if ever a Russian force did advance towards Afghanistan through Persia, we could always from our advanced post at Quettah, attack or threaten it in flank.

In addition to this, I may add that we should incur no hatred or animosity on the part of any native state by taking up this position. The Khan of Khelat is one of our firmest allies, and we have a treaty with him enabling us to take up this position if circumstances should seem to render it advisable. He is, moreover, fully alive to the advantages which a subsidy from the Indian Government would give him and his subjects.†

* On this subject see a pamphlet by Colonel Sir H. Green, K.C.S.I., C.B., entitled, "The Defence of North-West Frontier of India." Harrison, 59, Pall Mall, 1873.

† See pamphlet above referred to.

There is another and a notable scheme, which has often been proposed as a sure means of improving and shortening our communication with India, and also of immensely strengthening our strategical position in that country, and a lecture on the Central Asian question would obviously be incomplete without a reference to it. I refer, I need hardly say, to the Euphrates Valley railway, which is closely connected with the name and labours of that distinguished soldier, the late Major-General F. R. Chesney. In spite of his earnest and life-long efforts, besides those of others, to promote this great undertaking, and notwithstanding that the whole of the proposed route has been thoroughly surveyed, hitherto it has seemed that this project is as far off an actual commencement as ever. The proposed course of the railway is from Alexandretta, or Scanderoon on the Mediterranean, to the head of the Persian Gulf, and would be about 850 miles long. The great strategical and political advantages which it would secure for England are so well known, that I will only very briefly recapitulate them here.

1st. It would connect the Mediterranean with the Persian Gulf.

2nd. It would enable troops from England to be landed in India in seventeen or eighteen days.

3rd. It would subject an enemy advancing towards the north-western frontier of India to easy attack in the flank and rear.

4th. By making Kurrachee the European port of India instead of Bombay; it would save about 900 or 1,000 miles in the distance between England and India, and would reduce the time occupied in the journey by nearly one-half.

5th. It would render the resources of England far more promptly available in the East than at present. As long as Turkey was our ally it would be easily defensible, as both termini of it would be upon the open sea.

6th. It would put an end to the dangerous isolation of Persia, and would relieve that country from the undue pressure to which she is now subjected by Russia.

7th. In the event of Turkey being again allied with England against Russia, the railway would afford great facilities for throwing a British force from the Mediterranean or from Bombay, and so threaten or hold in check Russia's troops on her Trans-Caucasian frontier, where she has always considered herself safe from attack.

These are, it will be admitted, great and important advantages. There are, however, two sides to every question, and this scheme is no exception to the rule. There are, obviously, certain risks and disadvantages which the construction of this line, under English auspices, and with English money, would entail. These are, I think, somewhat apt to be lost sight of by enthusiastic advocates of the project, but they are certainly contingencies which neither statesmen nor soldiers are likely to overlook.

It must be borne in mind that the proposed line is to run wholly through Turkish territory. The Turkish Government, which is said to be most anxious for the construction of the line, might possibly be always friendly to England, and guarantee us the use of the route, but at the same time she might not always be our ally. We declined to

stand by her in 1870, when Russia tore up the Treaty of Paris, and she may well doubt whether we should fight for her again, as we did 18 years ago. She might well decline, therefore, to make any great sacrifices in our behalf. Again, take another case, and, it must be owned, a possible one. Russia might be at war with Turkey, and some of the provinces through which the line is to run might be the theatre of that war. In such a case, an endeavour would certainly be made by Russian troops to seize the line, if by so doing it was possible to paralyse the action or threaten the communications of their enemy. In such a case England might find herself in the somewhat false position of having made the line, and not being able, it might be in the time of some great emergency, to use it. So long as England and Turkey were allied together against Russia, there would be but little danger of our not being able to hold the line against all comers, as both its termini would be on the sea, and it would be protected both by the Tigris and Euphrates rivers throughout the whole of its course. Any Russian force, moreover, would have to advance a very considerable distance through an enemy's country, swarming with Mahomedan horsemen, before it could reach the line. There are other political complications which might very possibly arise, which will readily suggest themselves to every reader, but which it would occupy too much time to dwell upon more fully on the present occasion. Speculations, however, such as these, it may be said, are only possible and remote contingencies, while the immediate advantages to be secured by the construction of the line would be direct, obvious, and certain. Looking at the matter impartially, and without prejudice, it may fairly be said that the latter far outweigh the former, and it is to be hoped that some really practicable steps will now be taken towards making the Euphrates Valley route to India an accomplished fact. As, however, in the event of the line being made, it has been estimated that it will require some ten millions of money, it is well before taking such a project in hand, in every sense to count the cost, and to weigh well the possible risks and dangers to which that route might in the future be exposed.

Major POORE: Mr. President, Ladies, and Gentlemen, in dealing with this subject it is very important that we should understand the nature of the Government at St. Petersburg. Of course it is the general supposition that the Government at St. Petersburg is something of the same nature as any other Government of European nations. But it is not so: the Government of St. Petersburg is composed not of Russians, but almost altogether of foreigners: the history of its composition is a curious one, and dates back from the time of the low Greek Empire, and the scheme of empire is one as old as the taking of Constantinople itself.

The Russians were converted to Christianity at the time of the Patriarch Photius in the ninth century, and a body of priests and learned men to form a nucleus, were chosen by him to proceed to Russia. After various oscillations, at the close of about a century, they and their successors converted the country, and alliances were made between the reigning house in Russia and the reigning Emperor of Constantinople. When the Turks took Constantinople, the Greeks who had been accustomed to the leading places in their country, would not remain in it, nor would they go to their enemies of the Latin Church; a few went to Florence, but the great majority of them joined their brethren who were already powerful, and forming the governing party in Russia. The first result of this was the subjugation by the ruler of Russia of the Tartars, which was done by setting the different sections of the Tartars against one

another, then taking the part of the weaker against the stronger, and eventually crushing them both. After this, in the same manner they subdued the various free cities of Russia, which were in the most flourishing condition, of which perhaps Novgorod is one of the most remarkable. They were subdued by treachery, their leading men were carried to Moscow, and their peasants brought under the yoke of the Russian Greek Government. This continued under various able sovereigns, up to the time of Peter the Great, who very much developed the system, and whose policy has been considered to be delineated in that document called the will of Peter the Great, but which was no doubt of more ancient date than his time. The best proof of the authenticity of this document is found in the manner in which it has been universally carried out, in the various aggressions which Russia has made from that time. Peter the Great adapted or perfected the system he found, and being a man of great genius, with a capability of judging men's characters, he got all the unquiet and adventurous spirits he could collect from Europe to help him with his Government; this Government not being one of law, but a system of intrigue that had sprung out of that not very reputable state of things, the low Greek Empire. It can well be imagined that this is not an agreeable Government to the people of Russia, but as a body it has its strong points, one of which is the employment of trained talent. The Cabinet of Russia is composed of men trained on a continuous system, and it has for its antagonists, cabinets that are the haphazard of popular election, or rather the result of the factions or aimless revolutions of a country. These are all the obstructions that the mental efforts of Russia have had to withstand for the last 200 years.

It is not in Central Asia, but in Europe that Russia is to be opposed; to show the manner of this, I will mention an instance in which Russia has been successfully resisted, and some in which she has been unsuccessfully resisted. There was the remarkable instance that Captain Trench has alluded to in 1800, when it is evident that there was the idea, both in the mind of Napoleon, and in the minds of the Russians, of making an advance upon India. This was successfully resisted; how was it successfully resisted? Was it by any armed force? No, but by a few cruisers stopping the trade of Russia. It must be known that on account of the nature of the Government, of the immense territory that Russia possesses, and of the disaffection of her various populations, the executive is an exceedingly expensive one, and cannot be kept up except by the revenue on the exports of the country. If we call to mind the map of Russia, it will be seen that her exports are closed by two very small straits, one at the Dardanelles, and the other at the Sound, so that a few cruisers can hold Russia by the neck, and it is by the Right of Search,* and in the eyes of Europe, that Russia has alone been successfully combated. Let us pass from this to the time when she has been unsuccessfully combated, one, the unsuccessful invasion by Napoleon in 1813, and the second, the far more disastrous Crimean War, in which in the supposed hour of victory, a pretended and unauthorised surrender was made of that right which from 1780 up to 1815, we held successfully against the whole of united Europe. And this at a time when Europe was in the hands of men of extraordinary genius.

Major BURE: I feel that I am one of the last men in this assembly who has a

* Lord Derby said 22nd May, 1856, of the Declaration of Paris, "Whatever losses Russia may have suffered by this war, whatever embarrassments she may have experienced by the adoption of that one article, gratuitously inserted by the French and British Plenipotentiaries, by which in the words of Mr. Pitt, *you have sacrificed the maritime greatness of England on the shrine of Russia*, the day will come when the country will have cause to wring its hands in consequence of your acts, and then we shall know on whose head to visit the decline and fall of British maritime ascendancy."

On the same subject Lord Hawkesbury said in 1802, "His Majesty will never consent to place out of his hands, in a treaty of peace, those means which may be necessary of the security of his dominions in time of war."

Lord Nelson: "England must sustain the Right of Search while she has a ship, a sailor, or a shilling."

right to say much about the Central Asian question, but I wish to express to Captain Trench how much we all appreciate both his book and his lecture. I know that his book has gone throughout India, and those who wish to know anything about Central Asia have only to refer to it, to learn a great deal about the question. But mine must be the usual and easy task of finding one or two faults; I am sure Captain Trench knows that I do it with the greatest friendliness. First of all, on the subject of drawing a line between Russia and India; as far as I know from an Indian point of view, of any proposal ever made to Russia on this matter, it was simply that we wished it to be understood in a friendly way that the territories south of that line we considered to belong to our ally the Ameer of Afghanistan, and that there we would not permit Russia to go. But that never gave Russia any ground for supposing that we were to support or connive at her aggressions north of that line. Captain Trench has drawn a correct sketch of Afghanistan as it was some years ago, but he must remember that the picture of anarchy was only a true one so long as Afghanistan received the cold shoulder from us. From the time that we have befriended her, since 1869, since the late lamented Viceroy received Shere Ali at Umballah, Afghanistan has been a scene of peace, and not of war, and is now a strong and friendly ally to ourselves. Badakshan was conquered by Dost Mohammed, the father of Shere Ali, in 1859, and from that period it has continuously belonged to Afghanistan. Was it likely that we, holding Shere Ali as our ally, would permit Russia to say Badakshan belonged to any one else? The only change Badakshan has made in her allegiance was that she veered from brother to brother of the Afghan dynasty during the trouble of 1864-68, but she never went to Bokhara, or any other power. I am sure Captain Trench will not object to my correcting these little errors in his valuable lecture.

In settling the Central Asian question—which probably none of us will live to see settled—we must remember two things. First, what value we are to give to the promises of Russia, and then what position we ourselves ought to assume. As regards the promises of Russia, we all know that they are worth very little. She took the Crimea from Turkey, and slaughtered 30,000 Tartar families at the moment she was carrying on a commercial treaty with Constantinople. We discovered in 1838 that she was trying to give Kandahar to Persia, under a secret Treaty, and when we found her out, she issued a manifesto, under Count Nesselrode's signature, saying the policy of the two nations was to be peace and tranquillity, and the preservation of the independence of all the lands lying between each! While she was writing that document, she was organizing an expedition against Khiva, which fortunately was unsuccessful. Again, in 1864 Prince Gortschakoff told us that Russia had reached the limit of her empire. The ink was hardly dry, when she conquered the whole of Western Turkestan, ending in Samarcand. I have only to mention those three instances out of many others so show how little reliance we can place upon any engagement, treaty, or promise of Russia. The only thing left for us, therefore, is to comprehend what dependence we can have on ourselves. First of all, we have to look to Parliament; but we hear one member saying, we must not resist Russia by a policy of annexation; another member says, "the matter of Khiva is a minor point." Another says, the settlement of the Badakshan limits is the settlement of the Central Asian question; and so on. So that as far as we know, we can place very little reliance upon Parliament. Then how are we to depend upon ourselves? First of all, we must realise the fact that if any man takes a strong castle, he must have a strong wall round him, or he will lose his castle. Now that is, roughly speaking, our position in India. We have been too apt to vaunt our strength in India, and to ignore what is outside of us. Everybody knows what the Indian Government is trying to do, namely, to govern India justly, to make the native Princes strong, and the people happy, as far as we can, and thereby to add to the material progress of the country, and strengthen our position internally. But there is a still wider sphere of policy attached to that position, which is to see that our outworks are also strong. The policy of the late Lord Mayo, whose loss we all so deeply deplore, and whose broad, statesmanlike views on our relations in Central Asia are so well known, was to initiate a system of independent, strong, and friendly States all round India. If we once realise for a moment what that policy means in its entirety, Russia may take Khiva, or any other place she pleases in Central Asia, and we may laugh at her, and defend

ourselves without any more disagreeable feelings of Russophobia. Russia has got to the Valley of the Attreck, which is fertile, and blessed with good roads, leading down to Merv, Meshed, and Herat. She is also trying to establish herself in Yarkand, to capture Khiva, and to coerce Persia. We cannot actually protest against Russia taking Khiva, for if we do so, we only put ourselves into a false position, because we have no means of enforcing our protest. At the same time we can render it innocuous to ourselves by adopting a strong, careful, and decided policy of our own. If we carry on friendly negotiations with Afghanistan, Beloochistan, Yarkand, and all the other States surrounding India, and assist them when necessary with moral and material aid, we shall then establish a strong line of outworks round us, from which we may laugh at any foreign foe.

Sir Henry Green's plan, as a part of the Central Asian policy, is to occupy that place which Captain Trench referred to, Quetta. I know many people say we must not have an annexation policy, and so far they are quite right; but we must remember that what may have been considered four years ago to have been an annexation policy, is now simply a defensive one. We all know—I speak to military men—that you cannot defend any position without showing a few offensive qualities. In the present new state of things we must have strong outposts to defend our position in India, and if we take up these outposts at the request, or with the free consent of the States in whose territories they are, it is not annexation. By occupying Quetta, we guard against Persian encroachments, and Russian attack on Afghanistan, and we can thus possess a strong outpost from which we can not only observe events, but which gives to us a most valuable position. In considering the Central Asian question, or, in other words, our foreign policy as regards India, we must not forget that Turkey is also encroaching towards India. She has been doing so ever since we, in a measure, threw her over in regard to the Black Sea Treaty. She has taken a part of Arabia, and is trying to establish a fleet in the Persian Gulf. If we wish to realise what a valuable ally Turkey is to us, we have only to consider that as soon as we have completed our railways from Kurrachee to Peshawar, we have only to land a regiment of Turks in India as our friends to raise every Mohammedan in the place in the defence of India. The Mohammedans of India pray for the Sultan in every Mosque, and look to him as their chief in every way; so that with such a power for good or for evil, we must be very careful how we carry on our relations with Constantinople. I believe that if we look to these few little points, and comprehend the importance of dealing with our Eastern foreign policy with a *bold, decided, and broad* grasp, we shall preserve our position in India with ease, dignity, and power. I could say a great deal more on all these points, including the Euphrates Valley railway, but was quite unprepared to speak at all, and hesitate at this late hour to take up more of your time.

MR. ROBERT MICHELL: I should like to say a few words on the subject of the excellent and elaborate lecture to which we have listened, and the very valuable and spirited remarks of Major Burne. If we had some time ago adopted the views advocated by Major Burne, I think we should very probably have stopped the recurrence of those alarms whenever we hear of a step made in advance by Russia. There are one or two points not touched upon. First as to the expedition to Khiva. We all now-a-days profess to be very humanitarian, and we always have had sympathy for slaves, and have done something to show it; witness our expedition to Abyssinia and the recent dispatch of a special Envoy to Zanzibar on the question of the slave trade. We are very likely to be moved by sympathy for the slaves whom the Russians are now going to release in Khiva. They say they have fifty poor miserable captives "languishing under all sorts of inhuman tortures," as Mr. Bernal Osborne said in Parliament. That is a little exaggeration. Of course there are slaves in Khiva, but we must not be quite blinded as to the object of Russia's plans in that direction; it is not solely for the purpose of releasing her slaves that Russia is projecting her expedition. Instead of 50, there are, I believe, only 37, and their names might almost be given. They are descendants of former slaves, runaway Cossacks, renegades and criminals, who escaped to Khiva, and who would not return if the Russians put ever so much pressure upon the Khan of Khiva to release them. Moreover, these slaves are pursuing various trades and callings, and are all of them better off than most of the poor Khivans, for many of them also fill the highest posi-

tions in the State. Attention has not been drawn to the telegram which appeared in the *Times* yesterday, and yet it was very important. If the Russians have promised to give up Khiva, if not immediately, then in three months, they will hold some point as a material guarantee till the Khan agrees to their conditions, which will be the right of entrance into the Oxus at all times, and all sorts of rights and privileges to traders, not to mention a very heavy contribution. If they do give up Khiva, and so fulfil their promise, they will not give up the line of the Attreck which flanks Khiva and all the Turkoman country from the south, a line which leads through a very practicable country, through a country called the Paradise of the Turkomans. The Russians have already demolished a Turkoman fort on this line of road which leads to Meshed and Merv. Mr. Venuikof, an excellent Russian authority, who has written a series of articles on the Russian military frontiers in Asia, gravely argues with reference to the line of frontier along the east coast of the Caspian, that it is worthless; there is no depth of water along the north-east coast, except about mid-way, in Balkan Bay. Asterabad Bay is the only other place in which vessels can find anchorage, and there at present, or rather at Chikishlar, by the Attreck, which, by the way, is not navigable, their main forces are now concentrated. It is obvious what the Russians are going to do; they are going to penetrate to the south, isolate the Mohammedan races one from the other, and then again revert to the process of a "rectification" of their frontier; this will bring them to the Oxus from the south, and give them communication with their Turkestan province from the Caspian, and when that line is drawn along the south, with Khiva and Bokhara left in the centre, the entire country will be absorbed, and then the governments of those places will be taken in hand; in the meantime they can very properly be left in the hands of the native rulers.

General ADYE, C.B.: There is one point of which the gallant Officer who gave the lecture does not seem to be aware, namely, that in the *Daily News* of this morning, the last despatch of Prince Gortschakoff is given, in which he entirely assents to the views of England as regards the frontiers of Badakshan and Wakhan.

Mr. C. D. COLLET: I think all of us who have heard this lecture must have been struck with the way in which Captain Trench brought out that seeming contradiction which there always has been between the reality of Russia's advance towards India, and the failure of every attempt she has made as against India itself. In fact, whenever this "Russophobia," as it is called, has taken place, we have always been induced to do something which Russia wanted us to do, and we have in every case carried out her view by a pretended or attempted opposition. To go no further back than the year 1836, the British Government concerted with Russia as to who should fill the throne of Persia. Lord Palmerston's instructions were to Sir John McNeil that he should advocate the Russian candidate, and so far from Sir John McNeil being allowed to prevent the Shah of Persia from claiming Herat, the Shah was constantly saying, "If you threaten us with war, I will not go," and Sir John was obliged to say, "I cannot threaten you with war." Then we were told that the Crimean War was a war for the defence of India; but what was the result of the Crimean War? There were two points which affected India, and one was the so-called neutralisation of the Black Sea. The meaning of that was that under the treaty neither Turks nor Russians were to send ships of war there; but a treaty is always good for what Russia may gain by it, but waste paper for what she grants. The Turks observed that treaty, but Russia did not observe it; she armed her merchant ships and seized every vessel that went to Circassia, and the consequence is that Circassia has fallen by the neutralisation of the Black Sea, which we considered was a triumph over Russia. Then came the removal of that neutralisation two years ago. We gave it up at once and endeavoured to impose terms upon Turkey which she refused, hinting very broadly that she considered us as a more dangerous neighbour than Russia herself. But what has struck me is that we forget the law of nations altogether respecting India. Edmund Burke said that as soon as a man doubled the Cape of Good Hope, he left his conscience behind him. By making any agreement with Russia that she shall not go beyond a certain boundary we undoubtedly do agree with her that she may go elsewhere wherever we do not forbid her to go, and by making this agreement also, we put ourselves in the position that the moment she oversteps the boundary she has agreed to keep, we are bound

to go to war with her. What is the state of things at this moment? It is said, "It has been for some years felt by the Governments of Russia and the "United Kingdom respectively"—England and Russia on the same line—"that it "would be conducive to the tranquillity of Central Asia if the two Governments could "arrive at an identity of view regarding the line which describes the northern frontier "of the dominions of Afghanistan." What should we say if those words were uttered with reference to some European power, if it had been said "It has been "for some years felt by the Governments of Prussia and the United Kingdom "respectively, that it would be conducive to the tranquillity of Europe if the two "Governments could arrive at an identity of view regarding the eastern frontier of "France." We should say that France is our ally, and how could we, without consulting her, propose to make her a neutral and to settle her frontier for her? It is altogether forgotten that if Afghanistan is our ally, she is the person who is to decide in these matters, and that we only come as her ally. If, on the other hand, we are considering her as a protected State, we are really taking possession of her and making an agreement with Russia against Afghanistan, under pretence of assisting her. But we are told we cannot say to Russia, "You shall not come to "Khiva," because we cannot prevent her coming to Khiva. It seems to be forgotten that India is a dependency of Great Britain, and that Great Britain is a maritime Power. I may recall what Major Poore so well stated, that in the year 1801 Russia went to war with us, and we beat her in seven months. The Russian Cabinet was compelled to assassinate the Emperor in order that they might make peace. Why were they compelled to make peace? Not by any expedition like that of Napoleon, not by any expedition like that of the Crimea, but by the simple operation of our cruisers and privateers throughout the Baltic. We seized all Russian property on the high seas, whether in the hands of vessels belonging to Russia or belonging to neutrals. What was the end of the Crimean War? One of the things was the neutralisation of the Black Sea which destroyed Circassia; the other was a declaration signed without any authority by which we declared that we would not seize an enemy's property in a neutral ship. So that while Prussia invading France is allowed to take anything she can on land, while, in fact, any military power is allowed to seize property on land, we declare that we will not seize the property of our enemies at sea, and consequently when we come to discuss a war between England and Russia, we have a miserable talk of getting an outpost from the Khan of Kelat. What is meant by "identity of view between the Governments of England "and Russia?" It means that England is to give up to Russia whatever Russia is ready to take now, and then at some future time Russia will take the rest. But we are not bound by the Declaration of Paris, which says we shall not seize an enemy's goods in neutral vessels. In the first place, under the immutable law of nations we could never be bound to do anything which is utter destruction to our State. In the second place, the laws of England cannot be changed without the consent of Parliament. And thirdly, no treaty can be made without, in the first place, the authority of the Crown, and secondly the ratification of the Crown.

The CHAIRMAN: I am sure that you will allow me, ladies and gentlemen, to return our best thanks to Captain Trench for his very interesting lecture.

Note by Sir HENRY GREEN: The lateness of the hour at the close of Captain Trench's lecture prevented me at the time from making a few remarks which I had otherwise intended to have done upon some parts of his lecture. I now propose to do that in the form of a note, should the rules of the Institution allow of it. Captain Trench has shown how gradual, but nevertheless how certain, has been the progress of Russia towards India from the earliest date of her history as a nation up to the present time, when England has been forced to call upon her to define a limit to her future progress. This has been so clearly and ably described by Captain Trench, that it is unnecessary for me to dwell upon that part of his lecture. He has also shown that if the physical difficulties that would be encountered by Russia in any further advance are great, that they are nevertheless not insuperable, and that they would be principally met with beyond our northern frontier of India, between the southern bank of the Oxus and the Indus. On the western frontier of Afghanistan,

and by the roads leading through Persia from the Valley of the Attreck, and from Teheran to Herat, Candahar, and Quetta, all who have written upon the subject acknowledge the comparative ease with which a hostile army could approach our Indian possessions. It is to this line of advance that my attention has been mostly drawn. During a service of upwards of 20 years upon the Sind frontier, and in the adjacent country of Beloochistan, the subject was constantly present to my mind; and it was with a view to oppose the advance of an enemy in that direction that I have brought forward at the present moment the scheme of the late General Jacob.* Jacob proposed to occupy the Valley of Quetta, or, as it is sometimes called, Shawl, in Beloochistan. It is situated at the head of the Bolan Pass, thus closing, as acknowledged by all acquainted with that pass, the easiest road leading into India from the west. He further proposed the construction of a railway from Sukkur, on the River Indus, to Dadur, at the debouchure of the pass into India, and eventually to carry it even up the pass to Quetta itself. The whole distance would be about 200 miles, or 130 from Sukkur to Dadur, and 70 up the pass. Such a railroad would connect Quetta with the railway system of India, and place it within a couple of days' journey of Kurrachee, the seaports of the frontier. By the adoption of this measure the arguments of those opposed to the scheme, on the plea of the position being strategically a false one, on account of long lines of communication, want of supports, &c., &c., would be met. There are others, again, who fear the political difficulties that they imagine we should have to encounter; they talk about our being committed to fresh conquests and annexations, and that we might raise distrust in the minds of the Belooch, Afghans, and Persians. I think, however, that I can show that there is no occasion for entertaining these views; in proof of this I may mention that owing to the continued aggressive policy of Persia for years past towards both Beloochistan and Afghanistan, the British Government, in 1871 and 1872, felt called upon to interfere, and to despatch a commission to define the boundary between Beloochistan and Persia, as well as between Persia and Afghanistan. The success of this mission appears to be still doubtful, and must remain so until England takes up such a position as will compel Persia to respect these newly-defined boundaries. A glance at the map will show that Quetta would be such a position, and in occupying it we should be giving both moral and material support to our allies the Belooch and Afghans against Persia.

With reference to an expression which I have seen used, that by occupying Quetta we should break faith with the Khan of Khelat, in whose territory Quetta is situated, I may state that the late General Jacob—who beyond doubt foresaw that the day must come when an advance beyond the Bolan would become absolutely necessary for the safety of British India—in concluding a treaty with the Khan of Khelat in the year 1854 on the part of the British Government, included a clause as follows:—

Clause 4.—“Should it be deemed necessary to station British troops in any part “of the territory of Khelat, they shall occupy such positions as may be “thought advisable by the British Authorities.”

The Governor-General, Lord Dalhousie, in confirming this treaty, desired the following expressions to be conveyed to General Jacob:—

“The Governor-General in Council feels that he cannot praise too highly the “promptitude, the zeal for the public service, and judicious tact which you have displayed in your execution of the instructions addressed to you by the Government “of India in your successful negotiation of the treaty with the Khan of Khelat.”

In the year 1865, when I held political charge and military command of the Sind frontier, I considered it necessary, for strategical reasons, to push forward permanently certain outposts beyond our own frontier into the territory of the Khan of Khelat. No objections whatever were offered by the Khan or his people; on the contrary, his Highness's remark was that whatever course of proceeding was for the benefit of the British must also be for his. Therefore, with his consent, and in accordance with the above clause of the treaty, and the sanction of the Indian Government, I occupied Sunree, Sooe, Goranaru, and Gundoe, in Beloochistan, and

* See pamphlet entitled, “The Defence of the North-West Frontier of India,” before referred to.

these are the most advanced British outposts in India towards the west. I feel now that the time has arrived for a still further advance; and I am convinced that if properly managed, it might be made with the same ease and with as little disturbance as in the case of that already effected.

With reference to the Afghans: during the year 1867, Noor Mahomed Shah, a shrewd able Asiatic, then Prime Minister of Shere Ali, the Amcer of Cabool, was residing for some two months within the British border as a guest of the Government. I was in constant personal communication and on the most friendly terms with him, and he frequently brought forward the subject of the occupation of Quettah, remarking how such a position held by the British would strengthen the Afghans against the aggressive policy of the Persians in Siestan; and in speaking thus I believe that he spoke the feelings both of his master and his people.

There is one more objection urged against the immediate occupation of Quettah, namely, that we can occupy it from our present position whenever we feel inclined to do so. Now at the present moment the Khan of Khelat, his chiefs, and people are our faithful allies, but we must remember that great efforts have been made, particularly during the war with Persia in 1856, and the Indian rebellion the following year, and will continue to be made by Persia, instigated most probably by Russia, to detach them from their alliance with us. Therefore, by placing ourselves at Quettah we place ourselves between them and the nations who have the most to gain by seducing them from their allegiance to the British. If we continue to shilly-shally below the pass, we may find to our cost that when we really want to advance beyond it and to close the easiest road leading into India, it may be in the hands of our enemies.

It is again argued that it will take years before Russia is in a position to attack India. I acknowledge this; but it will take a long time for us to occupy and consolidate ourselves at Quettah, and create such a strong position as will enable us to form a base for operations against an advance of Russia on Herat—an advance foreshadowed in an able work entitled "A Political Survey," by the present Under Secretary of State for India, Mr. Grant Duff, who, in a chapter on Central Asia, says:—"If we are foolish enough ever to allow Russia to possess Herat, we deserve 'the worst that can happen to us.' To launch a British Army into Afghanistan or Persia without such a base and without such a position to fall back upon in case of necessity would be madness. The day may come when there will be a rush for the possession of Herat, and it is to be hoped that when that day arrives we may not still be found 'idly looking on from the Valley of the Indus on the movements 'going on beyond the Bolan.'"

LECTURE.

Thursday, March 13th, 1873.

GENERAL SIR WILLIAM J. CODRINGTON, G.C.B., Vice-President,
in the Chair.

THE STRATEGY OF RUSSIA IN CENTRAL ASIA, FROM A PERSIAN POINT OF VIEW.

By Captain R. MURDOCH SMITH, R.E., Major in Persia and Director of the Persian Telegraph Department; Fellow of the Royal Geographical Society; author of "History of the Recent Discoveries at Cyrene."

IN opening the present discussion on the Strategy of Russia in Central Asia, I would beg to preface my remarks by a brief explanation of my reason for venturing to submit them.

Our interests in the East are of such vital importance, that I consider it only the duty of every Englishman, who has any special means of studying the question of their defence, to come forward with his views, however incapable he may be of giving expression to them. Actuated by this feeling, I have, with great diffidence and some reluctance, yielded to a request to address you on the present occasion; and I have been still further induced to do so, by a conviction that the present solicitude in England with regard to our position has, on the whole, been directed to a quarter from which there is comparatively little to be feared.

A continuous service in Persia ever since 1863 naturally led me to take a special interest in the politics of Central Asia, and the significance to England of the proceedings of Russia in that region. As Director of the Persian portion of the Government Indo-European Telegraph, I was in constant intercourse with officials of every rank and class, both in the capital and in the provinces. And as this intercourse was generally of the most friendly nature, I had many opportunities of discussing local politics without the restriction of diplomatic reserve.

In the ordinary course of my duties, especially during journeys in almost every part of the country, I could hardly fail to become acquainted with the general sentiments of the community. The Telegraph, being a joint English and Persian Department, and very largely made use of, not only by the Government, but by the general

public of Persia, I had, of course, a practical school in which to learn the characteristics of the people.

I have several times crossed, by different routes, the continent of European Russia, and once passed through the Caucasus. During these journeys, and on other occasions, I have not unfrequently discussed Central Asian affairs with Russian acquaintances, both civil and military. These uninteresting personal matters I mention merely by way of excuse for what may appear my presumption in addressing you.

Before addressing myself to the subject in detail, I would wish to enter a protest against the idea that there is, as between England and Russia hitherto, any international "*Central Asian Question*" at all, inasmuch as I presume that we have never *questioned* the right of Russia to advance in countries over which we had no control, and with which we had no relations. The only question which has actually arisen, is that of the northern frontier of Afghanistan, and this has apparently been settled satisfactorily to both Powers. The important general questions, however, remain much as they did before this settlement, viz.:—In what way, and to what extent, does the gradual advance of Russia in Central Asia affect our position in the East? and secondly, What are the best means at our command of protecting our possessions against any dangers that such an advance may render us liable to?

With regard to the former of these, viz., how the Russian encroachments may affect India, I think we may take it for granted that there is no prospect of their ever enabling Russia to *conquer* India. Even if she were at Cabul at this moment, I believe most competent authorities are of opinion, that any direct attack she might make on India would meet with disastrous defeat. The only practical effect, one certainly of no slight importance, would be the power which her propinquity gave her of disturbing the tranquillity of the vast population of India, and *threatening* our military occupation of the country. This would, of course, necessitate the maintenance of considerable forces at the threatened points of the frontier, and an increase of the general garrison of India. This, it is unnecessary to point out, would bear heavily, perhaps insupportably, on the finances of India, and cripple any military operations we should be simultaneously called upon to make elsewhere. It is, however, evident that, even for a threat, a simple advance to the neighbourhood of our frontier would prove abortive, unless it were tolerably well protected and supported in flanks and in rear. A feint, to be effective, must be capable of development into a real attack. Even the mass of the population of India might be trusted to perceive the precarious position of a Russian force at the end of a long, difficult, single line of communication with its base. And, similarly, Russia may be trusted not to assume a menacing attitude near our frontiers, without fair security against the safety of her advanced corps being compromised. The evil effects of a Russian advance towards India depend, therefore, infinitely more on its *nature* than on its *extent*. A well-based advance should be checked by every means in our power, while the temerity of one of an opposite nature would infallibly lead to its own collapse.

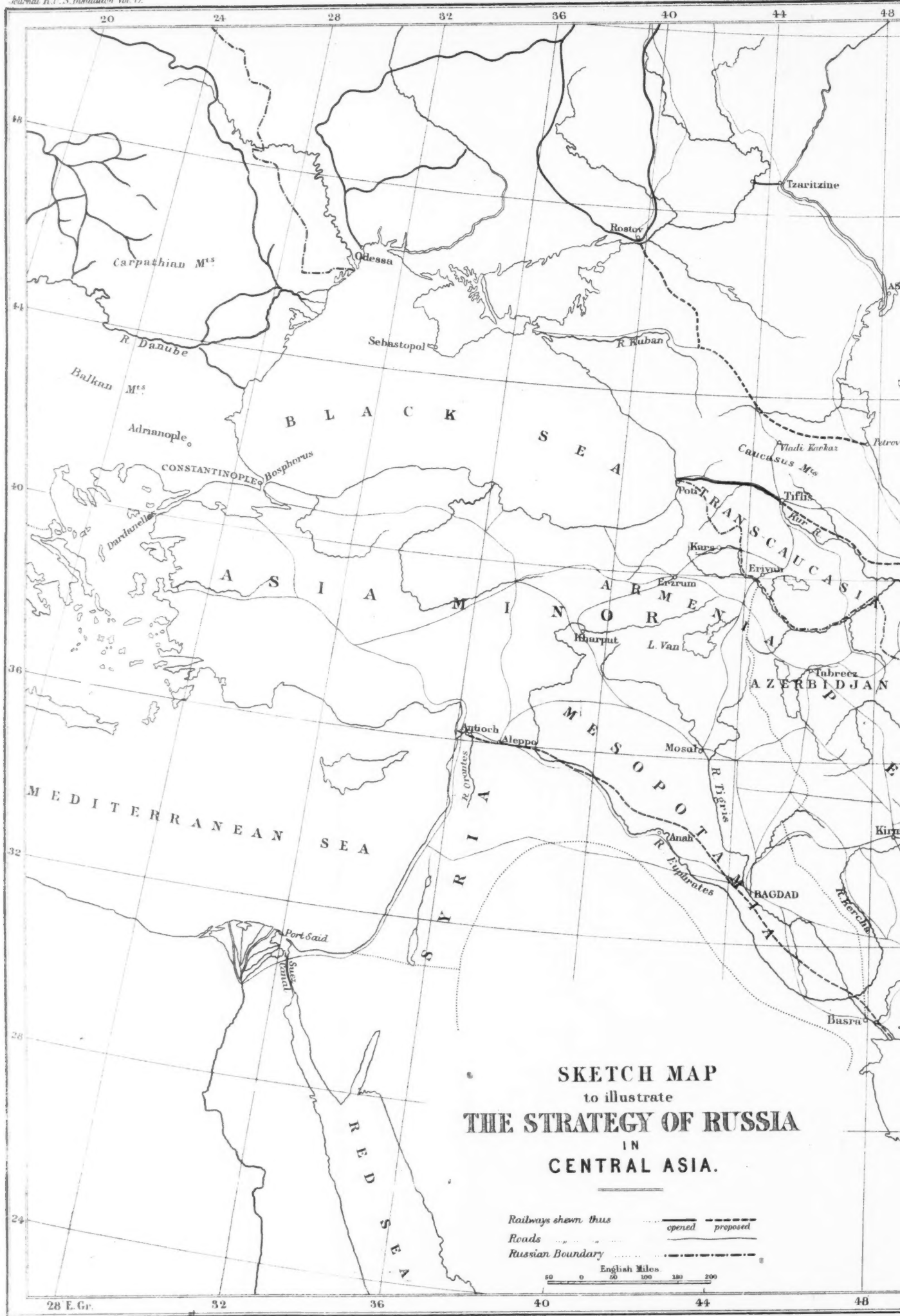
The whole question, therefore, like every other great military opera-

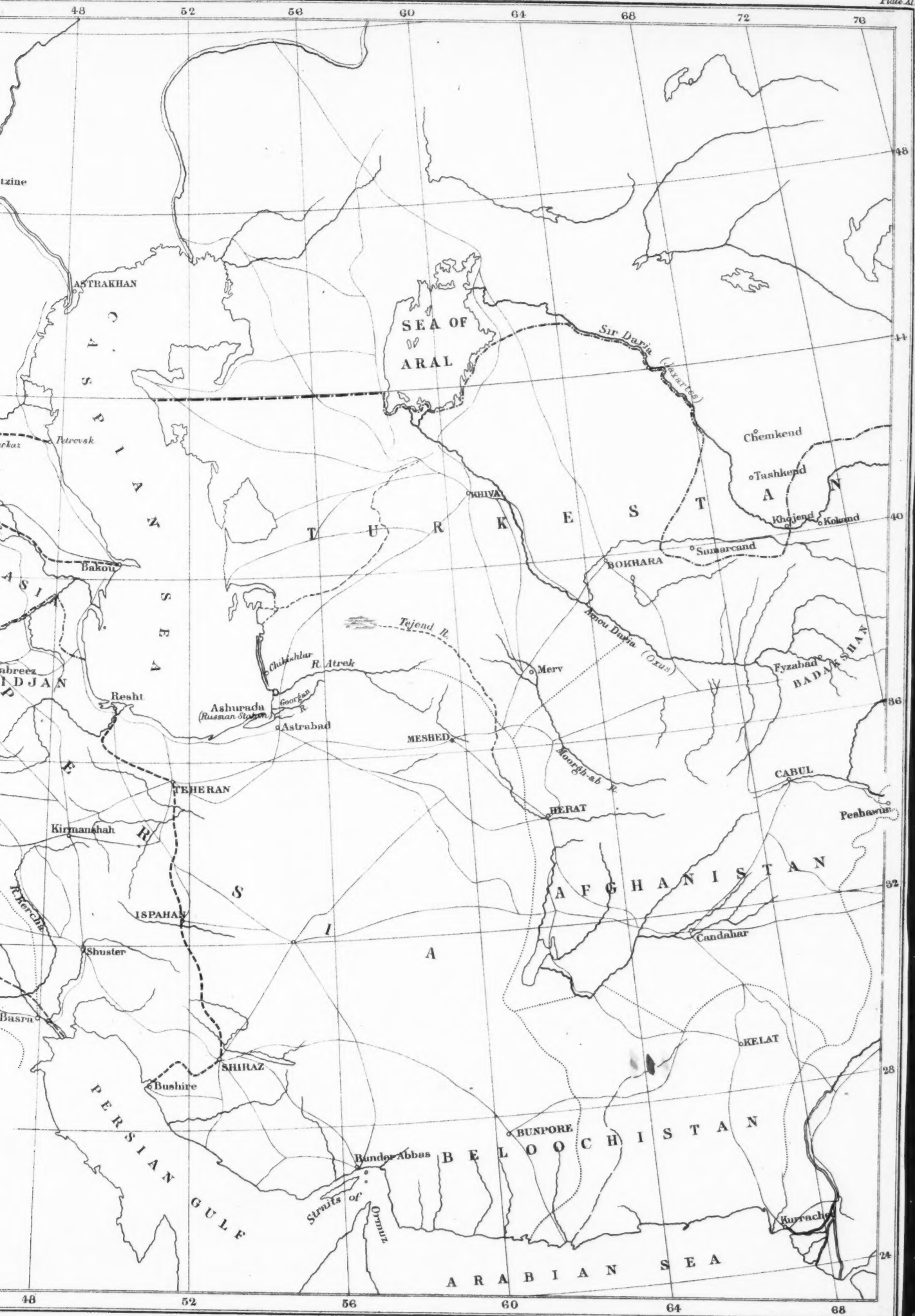
tion, resolves itself into one of communications. A glance at the map will show that, to advance towards India, Russia must base her operations either on the Caspian or the Sea of Aral. Of late years her actual encroachments—at all events those to which public attention has almost exclusively been drawn—have been based on the latter. Her recent acquisitions depend entirely on the line of the rivers and valleys debouching on the Sea of Aral, essentially on the two main ones, the Syr Deria, or Jaxartes, and the Amou Deria, or Oxus. On the former, the power of the Russians is continuously established, and a flanking movement to their right, from Tashkend and Khojend, by the subjugation of Samarcand and Bokhara, has brought them into the valley of the Oxus, above and beyond Khiva. Hence has arisen the necessity of their present expedition against that State. Khojend is, in fact, the geographical limit of any possible approach to India by the valley of the Jaxartes. The possession or control of the whole valley of the Oxus becomes, therefore, of prime importance to any safe advance to the borders of Afghanistan. Even for the security of their hold on the districts of Samarcand and Bokhara, the subjugation of Khiva is essential. It is doubtless owing to the existence of Khiva as an independent and inimical State, on the most direct line from the Sea of Aral to Bokhara, that the latter Khanate has not, although subjugated, been hitherto incorporated with Russian Turkestan. The success of the present expedition will give Russia the same command over the valley of the Oxus that she now has over that of the Jaxartes, and the actual absorption of Khiva and Bokhara will become a mere question of expediency. A further advance up the valley of the Oxus to Badakshan and Wakhan will only then become practicable. With Khiva on the direct line still unsubdued, and Bokhara still unoccupied, the Russian Government could have had no great scruples in accepting, as they have done, our proposals regarding the remote frontiers of Afghanistan. The occasion, therefore, of our opening diplomatic correspondence on the subject appears to have been well chosen.

From the above remarks I think it will be seen that Russia has not yet attained a position from which she can safely threaten even the outworks of our Indian citadel from the base of the Sea of Aral. This base, with its long lines of operation along the Oxus and Jaxartes, it should be remembered, is by no means a good one, as it is very remote from the centres of power, and being effectually closed by the severity of the winter in those regions, can only be available for extended military operations during a portion of the year. Were this, therefore, the only base that Russia could possibly avail herself of in approaching India, I think we might contemplate her encroachments with equanimity, if not with positive satisfaction. The slave-holding, kidnapping, barbarous, and fanatical States of Turkestan are utterly unworthy of sympathy, and Englishmen, at least, may well view with a certain satisfaction the punishment of the murderers of Stoddart and Conolly. Nor is it necessary in this discussion to assume that Russian advances in Turkestan owe their origin to any preconceived plan of attack against ourselves. Their significance to us is totally independent of the motives with which they may have been undertaken.

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It is chiefly owing to a conviction that, by way of the Sea of Aral *alone*, Russia can never hope to make even a diversion against India, that I have been induced to offer these remarks on the subject, in the hope of recalling public attention from an *accessory* to the *real* cause of apprehension. The Press, not only of England, but I may say of Europe, has of late been filled with articles on the past and projected successes of Russia in Turkestan and their influence on our Indian Empire, the views expressed being optimist or pessimist according to the bias or temperament of the writers. And this public discussion, I cannot help thinking, has been greatly fostered by the Russians themselves. It is not the usual practice of their journals to discuss pending negotiations, as in the recent question of the frontier of Afghanistan. Their object, I imagine, may have been to draw marked attention to proceedings in Turkestan, which could not be concealed, and to lead England to persist in asking for what they had already made up their minds to concede. This concession, they might hope, would bring the discussion to a graceful close, and lull for a time the watchfulness of England. My idea, however, may be erroneous, and it is perhaps somewhat beside the point.

The real importance of the Russian advances from the Sea of Aral lies, in my opinion, in their relation to the great base of the Caspian from which public attention has been too much withdrawn. It may therefore be appropriate to examine for a little the resources Russia already possesses on that sea, and the projected measures by which she will multiply them.

Her great line of communication with the Caspian is the Volga, a noble river, navigable for steamers from its mouth to Tver, between St. Petersburg and Moscow, a distance of somewhere about 1,000 miles. One of its tributaries, the Kama, is also navigable to Perm on the highway to Siberia. The Oka, which joins the Volga at Nijni Novgorod, is also navigable for a great distance. Three great railways, connected with the general railway system of the Empire, already lead to the Volga at Nijni Novgorod, Saratov, and Tsaritzin, from which last another short line leads to a point on the Don, which is thence navigable to the Sea of Azov. There are three flourishing companies on the Volga, the *Kavkaz e Mercurij*, the *Samolet*, and the *Volga*, each with a numerous fleet of excellent fast steamers, besides an immense number of barges and steam tugs. The river is peculiarly free from obstructions to the navigation. I have twice gone by steamer from Astrakhan to Nijni Novgorod, and once from Astrakhan to Tsaritzin, during all of which voyages I observed that we hardly ever even slackened speed throughout the night, and this in the Autumn, when the nights were long and the water at its lowest. Passenger steamers ascend from Astrakhan to Nijni Novgorod, a distance of 800 miles, in eight days, and descend in six, including stoppages at all the principal towns on the banks. Saratov is about half-way, and Tsaritzin is within 30 hours' steaming of Astrakhan. Here I may casually mention, as an illustration of the vast changes which railways have made in Russia since the Crimean War, that I once left Astrakhan on a Monday forenoon and arrived in Berlin the following Monday

morning. At Astrakhan there is a well appointed Naval Arsenal, leased by Government to one of the steamer companies.

The disadvantages of the Volga are, the bar at its mouth, and the closing of all navigation by ice for about six months of the year. The bar is usually passed in flat-bottomed barges hauled by tugs, the Caspian steamers anchoring outside at what is called the "Nine Foot." These vessels, however, are all of slight draught, and can be so lightened as to pass the bar without difficulty, especially during southerly winds when the water is deeper.

The great defect of closed navigation in winter is now in course of remedy by means of railways to ports on the Caspian that are always open throughout the year. Last year, a line was opened from Poti, on the Black Sea, to Tiflis, the capital of the Caucasus, whence it was intended to continue it to Baku, an excellent port on the Caspian. Mainly, through the exertions of the late General Koulobakine, Governor of Baku, that port has, within the last few years, been greatly improved. Quays have been built, with jetties alongside of which the steamers can be laid. Fresh water has also been brought down in pipes to the water's edge. An inexhaustible supply of gas, the source of the famous natural fires of Baku, exhales from the naphtha springs in the neighbourhood, and the naphtha itself is used in place of other fuel in the Arsenal of Astrakhan. Baku, a corruption of the original Persian name, Badkubeh, has a naval arsenal a short distance from the town, and is the residence of a military governor and of the Admiral Commanding the Caspian Fleet.

I understand that the railway from Tiflis to Baku is now in abeyance, and another line adopted from Rostov, at the mouth of the Don, the terminus of the present railway system, to Petrovsk, a good artificial harbour on the North side of the great range of the Caucasus. This decision has probably been come to on account of the somewhat exposed position of the Poti-Baku line in case of a war with Turkey. Its ultimate construction, although now postponed, is, however, only a matter of time, as the most formidable physical difficulties have already been overcome on the section from Poti to Tiflis. Even should the Baku line be finally abandoned, Tiflis will have excellent communication with the railway to Petrovsk by the magnificent road over the range of the Caucasus through the pass of Vladi Kavkaz. In a few years, therefore, we may expect to see Petrovsk and Baku, which are both open throughout the winter, in direct railway communication with the Black Sea and Russia generally.

And here I may note the significance, as regards Central Asia, of the recent modification of the Treaty of Paris, which restricted the freedom of Russia in the Black Sea. The northern and eastern shores, besides being interrupted by the Straits of Yenikaleh and the Sea of Azov, are physically ill adapted for good communications by land between Odessa, the Crimea, and the Caucasus. A naval force on the Black Sea becomes, therefore, a not unimportant part of the chain of communication between the South of Russia and the Caspian.

Russia has, therefore, or rather will soon have, the means of sure and rapid concentration of a force on the western shores of the Caspian,

at favourable ports which are always open. This force she has also the means of transporting by existing steamers, without the slightest opposition, to any point of the eastern shore, Persia being precluded by the Treaty of Turkomantschai from the right, even if she had the power, of floating a single gun on that sea.

The country on the East of the Caspian, between the sea and the valley of the Oxus, is for the most part perfectly desert, although inhabited here and there by independent tribes of nomadic Turkomans, whose chief occupations have long been robbery and piracy. The north-eastern frontier of Persia, between Asterabad and Meshed, is perpetually subject to their raids, Asterabad itself narrowly escaping capture in 1867. The prisoners made in their forays are either held to ransom or sold as slaves to the Oosbeks of Khiva and Bokhara. These markets will soon be closed to them by the Russians, and they will perforce be led to follow more peaceful lives. Ostensibly, and no doubt really to some extent, for the suppression of Turkoman piracy, the Russians keep up a considerable naval station at Ashuradeh, a small island in the bay of Asterabad, at the south-east corner of the Caspian.

This island, where I spent a few days in 1868, and which I again visited in 1871, is entirely of loose sand barely rising above the water. It almost touches the peninsula of Potemkin on the west, and a long spit runs out from it to the eastward, forming a perfect natural break-water, behind which there is excellent anchorage for any number of vessels. On the mainland of Persia, opposite Ashuradeh, the Kavkaz e Mercurij Steam Navigation Company have an agency, a landing wharf, cargo hulks, &c. There are usually three or four men-of-war stationed at Ashuradeh, besides a few others cruising in the neighbourhood, the whole under the command of a Commodore, who, with many of the officers and men and their families, lives on the island. Supplies of provisions and fuel are chiefly derived from the neighbouring Turkomans, towards whom the Commodore, in addition to his strictly naval duties, acts in the capacity of a Political Agent. Every Turkoman boat is at once seized if found unprovided with a passport from the Commodore. By this system, the whole of the independent coast on the east of the Caspian is practically under his control. In close relation with him, and under the orders of the Russian Minister at Teheran, there is a Consulate at Asterabad, the capital of the Persian border province of the same name. There is an English Consul at Resht, but none at Asterabad. The Russian Diplomatic and Consular Corps in the East form, it may here be noted, one Service, under a special Eastern Department of the Foreign Office at St. Petersburg.

I had no opportunity of seeing any Russian posts on the Turkoman mainland in this neighbourhood, but enough has been said to show that the Russians possess ample means of establishing and maintaining a *pied à terre* wherever they please. This they appear to have done near the mouth of the Attrek valley, and also between it and the Gurgân. With this and the fall of Khiva, the Turkomans will become isolated by the Russians, who will then have little difficulty in reducing them to a state of vassalage. Their excellent breed of horses, remark-

able not only for their size and strength but for their endurance, will then be available to the Russians for military purposes.

From this point, Tschikishlar and the neighbourhood, the Russians may push up the valley of the Attrek (which, by the way, is not navigable) clear of Persian territory, although close to it, to Merv, a point of great importance, whence they might establish a line of communication with their possessions on the Oxus. Although now desolate, Merv is still capable of its former opulence, and I have little doubt of its being the ultimate aim of the present concentration opposite Ashuradeh. The very desolation of Merv will facilitate the establishment of a Cossack colony around it, which will then become the key of the whole Russian system in Central Asia. I see no way in which this can be prevented; and we must contemplate the fact that, in a short time, Russia will be firmly established in this central and commanding position, with communications resting both on the Caspian and the Sea of Aral. This is the clear prospect, in my opinion, before us. We should, therefore, look it steadily in the face, and not allow the dust of Badakhshan and Khiva to be thrown in our eyes. Issuing from Merv, and still rounding the frontier of Persia, a Russian force might push up the valley of the Moorghab into Afghanistan, seize Herat, and advance by the great highway of Candahar to the borders of India.

Such an operation, however, it is manifest by a glance at the map, can only be practicable with the *connivance of Persia*. The more direct line through Meshed would, of course, involve her actual alliance. And herein lies, in my humble opinion, the kernel of the whole question. *With* Persian assistance, Russia can attack Afghanistan in force by way of Herat on the West, while she makes a simultaneous demonstration from the Oxus on the North. *Without* Persian connivance, such an enterprise would be hazardous, if not desperate.

For any undertaking of this kind, Russia's recent and projected operations in Turkestan are of strategical importance, as *they clear her left flank* in the advance from the Caspian to Afghanistan, and provide her with a *subsidiary* base of operations on the Sea of Aral. The latter alone, as we have already seen, is in itself of slight importance, but, taken in connection with the former, is of great significance. An advance from the Caspian, which is the only line, in my opinion, by which Russia can ever seriously threaten India, would be impossible with an independent Turkestan on one flank and Persia on the other. She is now engaged in absorbing Turkestan, and thereby securing her left flank—an operation in which we have no power to interfere, and regarding which it is futile to complain. As I said before, it is unnecessary to assume that the operation is undertaken against ourselves, but the result is the same.

It therefore becomes us to say as little as possible regarding *that* flank of the possible attack on which we have no means of interfering, and rather to turn our attention to, and keep it steadily fixed upon, the *other* flank, where, it must be hoped, all our power to influence events has not passed away. With Persia on our side in flank, and Afghanistan and our own force in front, the attack would probably never be

attempted, or, if attempted, would only lead to disaster. *On Persia therefore, we must fix our constant attention*; and no pains should be spared on our part to prevent her throwing her weight into the scale against us.

Fortunately for us, Persian interests and our own are identical, as it is clearly to our interest that Persia should be strong and independent. The more powerful she becomes, the more she will lean to our policy in the East, and the weaker she is, the more will she be apt to play the catspaw to her big neighbour. The conquest of Persia will be too arduous an undertaking for Russia to attempt for many a long year to come, although by menaces and partial occupations she may induce Persia, on critical occasions, to take her side. The thirty years' struggle with an insignificant race like the Circassians taxed all the energies of the Russian Army. Huge as the military force of Russia is, and unequalled in its power of resistance, it has no proportionate capability of attack. Its organization is by no means perfect, the great bulk of the junior officers are poorly educated, and the Russian peasant of the ranks is individually inferior to the Persian rayat. With an improved organization of her Army, and a growing confidence in her own powers of resistance, Persia would feel more inclined than she would otherwise be to withstand the menaces of Russia, and adopt an independent and therefore English policy. Besides all this, Russia must be well aware that a war with Persia would at once set her own new Mussulman possessions in Turkestan in a flame, and Persians have acuteness enough to perceive this.

A golden opportunity of improving the Persian Army and adding to our own influence in the country was lost, three years ago, when the Shah's Government, of their own accord, asked for the services of English officers to aid in drilling and organizing their troops. For some reason, but why I do not know, this request, although I believe entertained, was allowed to drop. However it happened, the result is unfortunate, as we lost a chance of really serving Persia, and thereby advancing our own interests, without giving cause of umbrage even to Russia. Should such another opportunity present itself, it should not again be let slip. The presence of a few able officers in the Persian Army would do wonders now, as they did before, in the earlier part of this century. The Persian soldiers are perhaps superior in physique to any in the world, and the whole nation is peculiarly active, both in mind and body. They are born horsemen, and the country abounds in excellent horses. Even the highest personages, so unlike in this respect to most other Orientals, think nothing of riding post at the rate of 80 or 100 miles a day. I remember, for instance, the present Prime Minister, when Ambassador at Constantinople, proceeding in this fashion to his post from Teheran by Baghdad and Diarbekr, a ride of 1,500 miles. With irregular Cavalry ready to hand, and admirable material in the way of men for the other arms of the service, a proper organization and good modern armament are alone wanted to render a Persian Army able to cope, on its own ground, with any expeditionary force from Russia.

As regards the feeling throughout the country, I should say from

experience that it is, on the whole, friendly to England and hostile to Russia, the influence of the latter being confined to the capital and the shores of the Caspian. The establishment of the Telegraph, worked by an English staff, has, I am convinced, greatly tended to a *rapprochement* between Persia and England, and the presence of a number of properly qualified English officers with the Persian Army would undoubtedly tend still more in the same direction. Our first appearance in the country in 1863 was viewed with suspicion, which gradually gave place to indifference, and finally to general approval. Any joint operation of Russia and Persia, especially if it involved the presence of a Russian force in any part of the country, would be intensely distasteful to every class of the community.

Owing to the prevalence of such feelings, I should, as a special measure affecting the question under discussion, recommend the *strengthening of the fortifications of Meshed*, which, it will be seen by the map, occupies a commanding position on the road to India. It is at once the capital of Khorassan and the holiest city of Persia, and thousands of pilgrims annually flock to the shrine, within its walls, of the Imam Reza. A visit to this shrine confers on the pilgrim for ever afterwards the highly prized appellation of *Meshedi*, as the *Haj* to Mecca does that of *Hajji*. The religious feelings of the inhabitants of Meshed, and in fact of the whole country, would be roused against any occupation of the holy city by the infidel, so that we might trust fanaticism to hold it to the last extremity; and its distance from the Russian resources on the Caspian would render a siege a most arduous undertaking. Astera-bad is too approachable from the sea to make its fortification advisable. The Ameer of Cabul might also perhaps be recommended to strengthen as much as possible the fortifications of Herat, although on this point I speak with less confidence. Were Meshed and Herat (held as they would be by different States) both fortified and garrisoned so as to resist any attack other than by regular siege, a great stumbling-block would be placed in the way of a Russian advance from the Caspian towards India.

Another measure affecting Persia, and the question under discussion, would be the permanent increase of our naval force in the Persian Gulf, which has unduly dwindled down since the abolition of the Indian Navy.

Before leaving the subject of Persia, I would draw attention to the approaching visit of the Shah to Europe. His Majesty will be accompanied by many of the principal personages of the Kingdom. Russia will be the first country visited, and the Russians will probably not fail to produce an impression on him by an imposing military display. During his stay in England, our own light should not be put under a bushel, and it is to be hoped that every endeavour will be made to give him and his attendants the means of appreciating our own resources. However brilliant the military display with which he will probably be greeted in Russia, he will hardly fail to notice the generally poor appearance of the country, and its marked contrast in this respect with England.

A concession has been lately granted by the Persian Government,

for a railway from Resht on the Caspian, to Teheran, and thence to some point not yet determined on the Persian Gulf. If this railway is ever finished, it will be of great benefit to the country, as a means of saving it from the horrors of another famine. I hardly see, however, how it can greatly affect the strategical question under discussion. If one terminus is of easy approach from Russia, the other will be nearly equally so from India.

I shall not enter upon the large question of the Euphrates Valley Railway. The establishment of such a line of communication with India would provide a most valuable alternative to that by the Suez Canal, which might be *effectually closed in an hour or two when we needed it most*. It would, also, no doubt, indirectly add to our influence in Persia, but otherwise the question is hardly pertinent to the present discussion.

If I say little regarding Afghanistan, it is only from my want of any special knowledge of its affairs. Its position is essentially different from that of Persia, inasmuch as it must always lie, not in flank, but in the direct front of any Russian advance, and is moreover at our own doors. The policy of the Government of India, as manifested on the occasion of the late lamented Viceroy's great Durbar at Umballa, appears to have been thoroughly successful. Difficulties will no doubt arise through intestine feuds on the death of the present and future Ameers of Cabul, which must be dealt with as they come. But the general policy may still be adhered to of assisting the Ameer (*de facto* or *de jure* as the case may be) to establish his authority, and promising aid in case of invasion, without entrammelling ourselves by any more definite treaties. Such a policy has already made an ally of the present Ameer, and may be expected to have the same effect with future ones. Above all, I would deprecate any rectification of our own borders, even for the gain of a better military position, which would cause the slightest suspicion of our good faith. Even should Persia be overawed, against her better judgment, into turning against us, it is almost incredible that Afghanistan should ever be led to follow her example, our interests being so clearly identical. Moreover, should Persia, at any time, show signs of wavering, direct pressure may be brought to bear against her through Afghanistan. And she may be led to see, independently of her true interests pointing in the same direction, that Afghanistan, backed by India, is quite as formidable a neighbour as Russia. It is important, therefore, that our dealings with both those Asiatic States should *hang together*, so to speak, and be interdependent on each other.

As affecting both those countries, I may add a word regarding their boundaries. The recent definition, by the mission of Sir Frederick Goldsmid, of certain long disputed portions of the eastern frontier of Persia, must be productive of many advantages to Persia, Afghanistan, and Beloochistan, and collaterally to ourselves. With an undefined and disputed boundary there was a perpetual source of danger to the peace of those countries, and more remotely of India. If any portion of the frontier is still indefinite, measures should be taken, in concert with Persia and Afghanistan, for its speedy settlement. The work of

the joint Commission for the settlement of the Western frontier of Persia, although interrupted by the Crimean War, and still I imagine unfinished, has doubtlessly on several occasions saved Turkey and Persia from hostilities. With a similarly definite boundary on the East, one perpetual incentive to encroachment on either side will cease, and we shall hear no more of Persian aggressiveness at the instigation of Russia. At peace with each other, both Persia and Afghanistan may securely turn their attention to internal improvement and consolidation. Instead of wasting their energies against each other, and continually producing uneasiness in India, they may be induced to make common cause against any assault on their independence from the North.

In conclusion, I need hardly say that too much reliance must not be placed either on Persia or Afghanistan, although no opportunity should be lost of influencing their policy in our favour. So long as they are independent they will prove most valuable outworks to our Indian fortress, and must fall into the power of the enemy before the *place* itself can be assailed. And the stronger we can make them, the more are they likely to retain their independence, and stem the tide of Russian aggression. *But our final and only trustworthy stay must be our own military power in India.* How, should the actual tide of invasion ever reach our borders, we can best roll it back, and what steps to that end should in the meantime be taken *within* our own frontiers, I leave to more competent individuals than myself to indicate.

It has recently been said, and said truly, that the shadow of our power falls far beyond the snowy barrier of the Hindoo Koosh. If I may be allowed to adopt the metaphor I would add, that care must be had that the Northern Light, whose rays are beginning to penetrate the penumbra, should not, by increasing brilliancy, pale our own luminary, and thereby cast the shadows of the barrier in an opposite direction.

Major BURNE: I am sure we must all thank Captain Murdoch Smith for his valuable lecture, and more especially, because he has, to a great extent, called attention to the chief weak points of our position in India. I agree with what he said, at the beginning of his lecture, that everybody who has the slightest knowledge of the subject ought, on all possible occasions, to come forward and contribute what little he knows, which must be my excuse for entering into the present discussion. As regards Badakshan, Major Smith is quite right when he says we must not let the settlement of that portion of frontier blind us to greater dangers to the south-west, but, at the same time, we must, in fairness, give it its true value, which is this:—the Russians have been long moving in that direction; they have taken Kuldja to the east, and have concluded a commercial treaty with Yarkand. Badakshan itself is only 120 miles distant from Peshawur. Therefore, in settling the northern boundary of Badakshan, we have no doubt done a wise thing, because the access from that part of the world to India is almost as easy as by way of Persia. We have a great mass of mountains between us, it is true, but some of the passes are only 5,000 feet high, and a hostile Army can, without impediment, reach Cashmere, at any season, when the passes between us and that territory are covered with snow, and inaccessible to us. So that, this fact alone gives that part of the country a great value to us, which we must duly appreciate in discussing the Central Asian

question. In settling the boundaries of Badakshan, and including it in Afghan territory, we have done a thing for which the Ameer of Cabul is extremely grateful to us. We have, if possible, made him much more dependent and reliant upon us than he was two or three years ago, and we have increased our influence with him, which is a great point gained. I am one of those who agree, most strongly, with the fact that we have no means of resisting Russia taking Khiva or Bokhara, and that, therefore, it is better not to entangle ourselves by trying to prevent her; but, at the same time, we must be very careful not to lend any countenance to her in conquering those countries. It is all very well for people to say that Russia spreads peace and Christianity, but facts tell us that she spreads war and devastation. We must, therefore, be most careful not to give Russia the slightest countenance in her unlawful conquests, for she is trying to disseminate the idea that we are going hand in hand with her, in her policy of annexation; an idea which materially assists her plans and paralyzes resistance. Major Smith has done great service by drawing our attention to the north-western part of the country. He has mentioned the occupation of the Valley of the Attrek, which is a great blow to us. Russia has long harboured designs in that direction. So far back as about 1725, she acquired Asterabad by a treaty with Persia, which, I believe, has never been cancelled, and she may therefore, on this pretext, take it whenever it suits her to do so. But, in looking at these dangers, we must, as Major Murdoch Smith said, rely on ourselves. If we acknowledge that we have no means of resisting Russia annexing these distant countries, then the only counter-move we can make is to strengthen ourselves, and the best way to do so is, as the late Viceroy so invariably demonstrated, to surround ourselves with independent States, such as Yarkand, Afghanistan, and Beloochistan, and to make them strong, friendly, and one with ourselves. This is our best protection against this advance of Russia. As regards what Major Murdoch Smith says, in respect to British Officers being sent to drill the Persian Army, I may explain that the proposition was made three years ago, but, at that time, Persia was not only attacking Afghanistan, but Beloochistan—both our allies—so that the proposal to help her with British Officers, in her encroachments towards India, could hardly be entertained. You know, also, that when we last sent British Officers to Persia, to train her Army, we became entangled in the siege of Herat, which was contrary to our whole policy, and obliged us to withdraw our Officers. Naturally, therefore, three years ago, when Persia was encroaching on Afghanistan and Beloochistan, we declined to send her British Officers to teach her how to do it. Since that time, under the able management of Sir Frederick Goldsmid, we have drawn a direct line of frontier between Persia and our allies, from the coast up to Herat. Now that is done, let us send Persia Officers, by all means, provided she adheres to this changed and peaceful policy. Major Murdoch Smith has drawn attention to Merve, which is, no doubt, an important point. Russia sent a reconnoitering detachment of men there more than a year ago to survey and report upon the place, and she has also established an Agent, according to reliable reports, at Meshed, with a view to keep an eye on Merve. I concur with Sir Henry Green, and others, in thinking that our weak point is, in reality, Seistan, which is south of Herat, and has plain, good roads, where troops can move easily and gain easy access into India; not by the difficult passes on the north, but by the easier passes of the south. Therefore, I am one of those who, in the present aspect of affairs, think we should occupy some strong, defensive post in Beloochistan, to show our friends and enemies that we will not stand any nonsense. Carrying this out, with the consent of Afghanistan and Kelat, we could effect a quiet demonstration, which would have the greatest effect throughout the whole of Central Asia, and on none more than on Russia, Afghanistan, and Persia, against the whole of whom we must protect ourselves, because we cannot really trust any of them. Again, we must not forget the Persian Gulf. It is not only to Badakshan or the Attrek, but to the whole circle of our defences, that we must look. Turkey has obtained a footing in Arabia, and floats several men-of-war in the Persian Gulf. We must, therefore, be careful in our relations with Constantinople, and indeed, by strong and proper diplomacy, take every means of preventing any attack, on the part of Turkey, Persia, Russia, or any other power, at a time when we may be in difficulties. By attending to this essential point, and surrounding ourselves with the strong and friendly States which

the late lamented Viceroy so wisely advocated and established, we shall ensure a moral strength and prestige, both in and out of India, which will be a real protection in the hour of need.

Col. Sir FREDERICK GOLDSMID: I fear I have but little to say on the present occasion. As, however, you have been kind enough to call upon me, I may express general concurrence in what Major Murdoch Smith has stated. We might, in detail, differ on certain points, but no more. As regards our position in India, my own opinion is, that as we have now defined a frontier beyond our own frontier, we may consider ourselves secure, so long as there is no infraction of this outer line. That is to say, we have come to an understanding with Russia on the north east frontier of Afghanistan and up to the Perso-Afghan frontier west of Herat (there may be objection to the understanding, but none, I think, to the actual boundary); and by a separate negotiation with Persia and neighbouring States, with which I myself have had something to do, the line thus determined has been continued, more or less, from below Herat down to the sea, so as to form a perfect *cordon*. If that boundary were infringed from the westward, or if infraction were likely, then, I believe, it would be well to consider the question of pushing on in advance of our present Indian outposts, not otherwise. I would explain my *cordon* to be the line commencing in the north-east of Afghanistan, at the Sari Kul, carried on to the junction of the Kokeha and Oxus, and along the Oxus to Khoja Saleh; thence in a south-westerly direction to the frontier west of Herat, and south through Seistan and Beloochistan to the Mekran coast. In other words it is the whole eastern frontier of Persia. The question of Persia itself is a serious one, and I quite agree that if we could trust thoroughly to her as an ally, such an alliance would perhaps be the very best we could have at the present time, because Persia is no doubt a very important country situated between India and Russia. But unfortunately in Persia, the Government is not the country. The three or four individuals who now represent the Government, are aiming at advanced civilization, and consequently glad to be on the best of terms with all the European States. These men may go out of power to-morrow, and another party may come in; this may be the party of the priesthood, and it may be perfectly hostile to us and to all European nations; so that I do not think we can thoroughly depend upon an alliance with Persia as a safe or lasting measure. It is an alliance rather with a few individuals who constitute the new school of Persia. I do not mean to say that we should disregard the friendship of that country, or fail to strengthen it in every legitimate way: quite the reverse. But we must not place too much dependence upon it. Nor do I think, in spite of our own prestige in the East, that we can always say we have a superior influence to Russia in Persia. I am afraid I cannot quite subscribe to that somewhat prevalent opinion. We have, it is true, every now and then our chance, and we can go up while Russia goes down, but it is *nice versé* occasionally. At the present moment I do not think that we have less influence than Russia, but neither can we say that ours is markedly superior to hers, or indeed to that of other European States with which Persia has relations. France, unfortunately at the present moment, is not in a position to exercise much influence there, nor do I suppose she will do so for a very long time, and therefore it is really only Russia and ourselves that have any material interest in the matter. Let us suppose for a moment Persia completely in the hands of Russia, and England unpopular there, Persia might advance Russian troops to within 400 miles of Kurrachee. There is a place called Peshin on the newly determined frontier whence opens out the valley of Kedje leading to Beylah. East of that valley a difficult mountain pass presents itself, but if once traversed, the whole country is open to Kurrachee. Attention to this route has always appeared to me important. Distances are undeniably great, and there are many physical obstacles to troops marching in Eastern Persia, but if you have a friendly people to aid, there is no reason why they could not pass Russian troops as well as their own. I really came quite unprepared for speaking, but, as I said at first, I think the *cordon* described, is about our best present guarantee for India; and if Persia, Afghanistan, and Beloochistan keep to that limit, we need not feel much anxiety at the movements in Western Turkestan.

Captain J. F. F. COLOGAN, B.S.C.: There is one point I should wish to draw attention to. A reference has been made about assisting our allies so as to strengthen their power

to form a barrier outside of India. The Ameer of Afghanistan at one time asked for the assistance of British Officers to help in organizing his army. The men are about as fine a material as you would wish to come across, and, although at times a little turbulent, are easily managed by British Officers, whenever they get them in the ranks of our Native troops. I think this request of the Ameer might be conceded, but at the same time there is always a certain risk. British Officers going to Afghanistan render themselves liable to be at any time assassinated by the fanaticism of some people who do not view them in a favourable light. But, notwithstanding that it would be a service of danger, I am certain that British Officers will always be ready to come forward and undertake a duty of this nature, and I feel sure that the Afghans officered by British Officers, would always be able to encounter and repulse Russian troops in the fortresses which we see so marked all round the frontier of the country.

Major KNOLLYS: Major Murdoch Smith has pointed out very ably the strategical importance of Persia in the Central Asian Question. It is a truism to say that the whole question is one of communications. Major Smith recognizes that fact up to a certain point; he has told us about the communications across the Caspian and down the Volga, and by railway to Baku and Petrovsk. But what I think we had not full information about is the communications, possible up the valley of the Attrek, which valley appears as far as we can judge to open, or to lead, into the country bordering on the oasis of Merv, to which attention has been drawn as being a most important point on the way to Herat. What I think we should be glad to know would be, what the nature of the Valley of the Attrek is, what the resources in the way of food are up the River Attrek and along the country on each bank; and also where precisely the frontier of Persia terminates, because there has evidently been a very great amount of uncertainty on that subject, whether the Attrek bounds it, or whether the frontier lies between the Attrek and the Goorgan (see Map); and where the Attrek takes its rise. Also if any one can give any recent information with regard to the navigability of the Amou Deria, it will be a very valuable contribution to this discussion.

Major O'B.C. ST. JOHN, R.E.: The gentleman who last spoke has asked for information regarding the valley of the Attrek. I have made a special study of that country lately, although I have never had the advantage of being there, and I may tell you that the Attrek is not navigable. There is a good military road to the north, quite clear of the Attrek, through a country called the Dāman-i-koh, or skirt of the hills, in Persian, and the Attak, in Turkish, which, I think, means the same. This road follows these hills to a point where the Tejend River, which flows from the south-east, loses itself in a swamp, called by the same name. From this point, there is a road, with some two or three days of desert, to Merv. Merv is a ruined town in an oasis on the banks of the River Murgh-ab, which, about this part, is divided into a number of canals, which lose themselves in the desert, about a day's march to the north. The Turcomans have a strongly intrenched camp at this point. The Persian Governor of Khorassan, an uncle of the King, marched from Meshed, in 1859, to Merv, meeting with very little opposition, and partly by force of arms and partly by conciliation, reduced the neighbouring Turcomans to complete submission. He requested leave of the Shah to advance to Khiva, or to Bokhara, but met with an unfavourable answer, and, after some three or four months' occupation, was obliged to withdraw, and was, on his return, deprived of the Government of Khorassan. However, from his representations, the Shah made up his mind to try again, and sent another uncle of his own to Khorassan, as Governor, who, in the following April, moved out a force of some 25,000 or 30,000 men and 30 or 40 guns, to Merv, which he occupied without opposition. After remaining there three or four months, the Persian Army advanced to attack the intrenched camp of the Teké Turcomans, but, by gross mismanagement, themselves sustained an overwhelming defeat. Strange to say, instead of falling back on Meshed, they retreated in the direction of Herat, along the valley of the Murgh-ab, which shows that there is a practicable military road in that direction. The fugitives of the Army were met by Colonel Pelly, then on his way from Teheran to India, and he brought some of the wounded men into Herat, and had them cared for. That shows that there is a practicable road north of the Attrek to Merv, and east of the Persian frontier, from thence to Herat. That is to say, the Russians have it in their power now, without in the least infringing the

guarantee that they have given for the inviolability of Persian territory, to take Merv, and not only Merv, but Herat almost before our Minister at Teheran knows anything about it at all. (The CHAIRMAN : Do I understand that road is north of the boundary we see there ?) Quite so. The present frontier of Persia is, no doubt, the Attrek. In spite of all the denials in the papers, there is no doubt, I think, that about December, 1870, or January, 1871, a distinct understanding was come to, between the Persian and Russian Governments, that the Attrek was, in future, to be considered as the Persian boundary. Previously, the Russians had considered either the Goorgan or a river a little to the south, the Kara-su, as the Persian frontier ; the Persians, on the contrary, asserted their claim up to Khiva ; so that the Attrek frontier was a compromise, and has left the best military road open to Russia.

The CHAIRMAN : The lecture, and also the discussion that has followed, have been extremely interesting. We have now only to give our best thanks to Major Murdoch Smith, for his kindness in coming here to address us.

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